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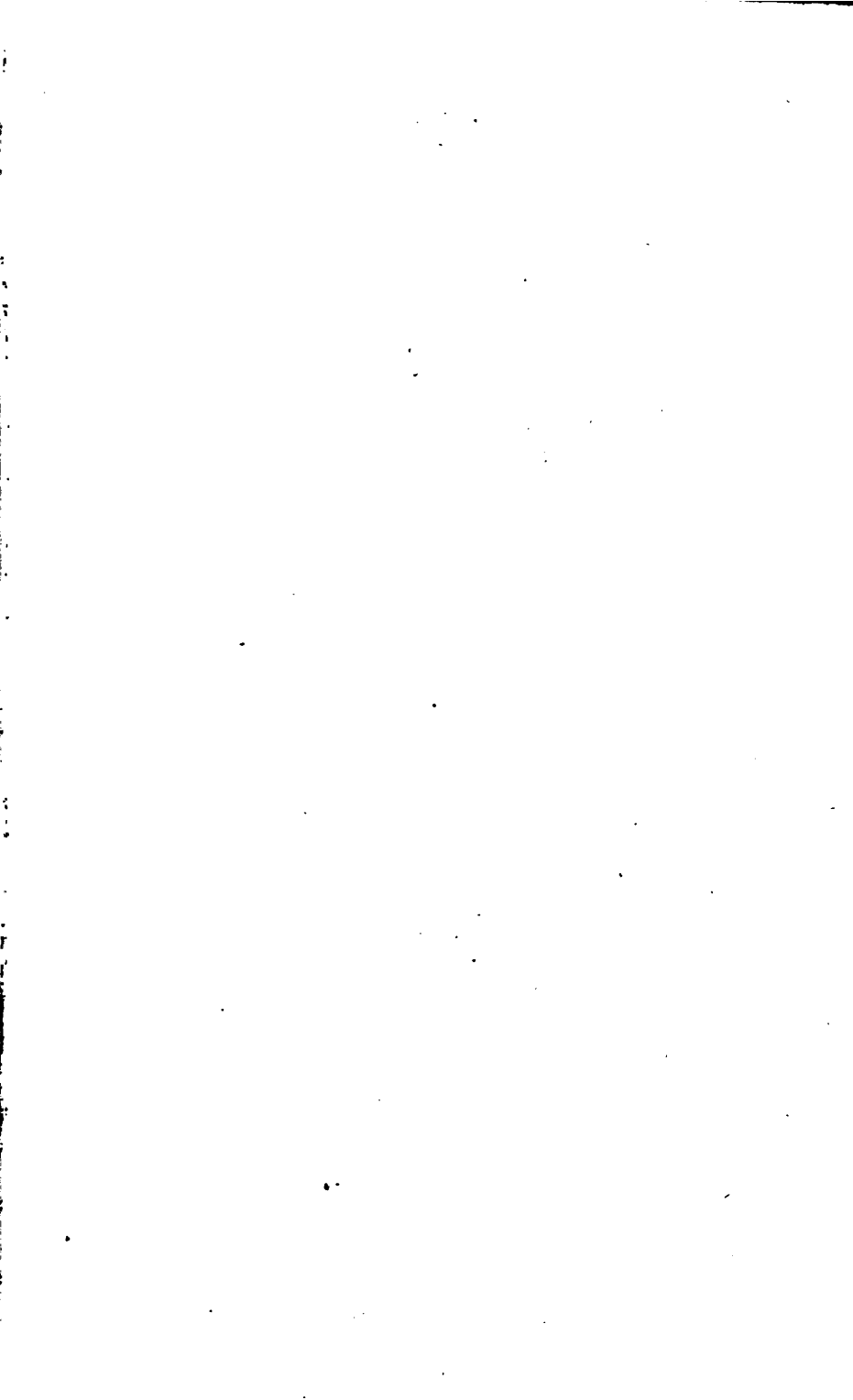
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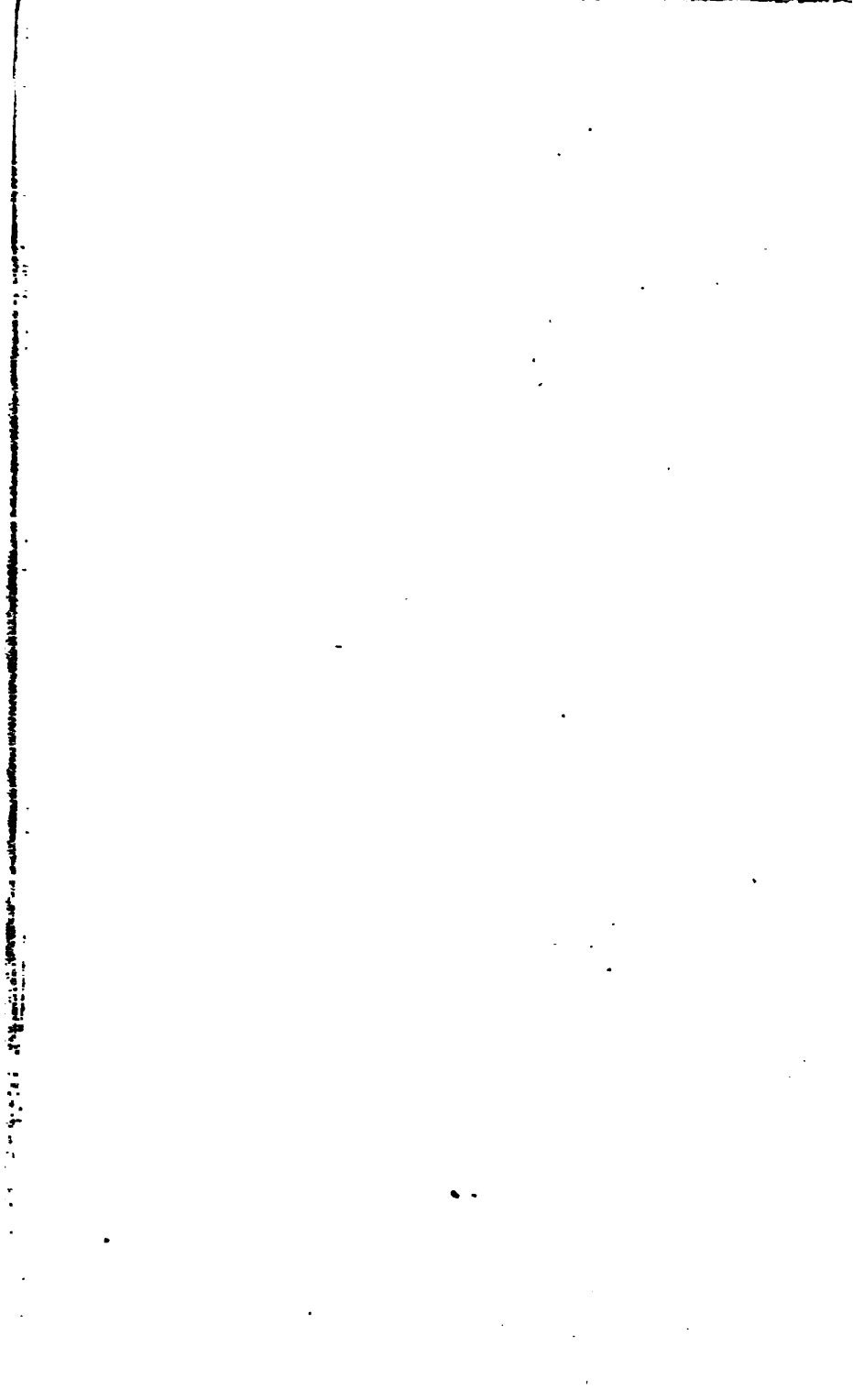
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JANUARY 15, 1886.

Vol. VII.

The Sheffield Prosecution.

THE attention of the profession may be drawn with advantage to certain points brought to light for the first time, as to their legal reading, in the Sheffield prosecution. Section 4 of the Dentists Act says that a person shall not be guilty of offence in calling himself a dentist, though not registered in the Dentists' Register "*If he shows that he is not ordinarily resident in the United Kingdom, and that he holds a qualification which entitles him to practise dentistry or dental surgery in a British possession or foreign country, and that he did not represent himself to be registered under this Act.*"

The case turned upon the interpretation of the words "ordinarily resident." It was contended on the part of the Counsel for the prosecution that the point for consideration

was not what the defendant had done, but what his intentions with regard to the future were—whether his acts show an intention of continuing resident. The exemption claimed by the defendant, it was stated, applied only to a person who is in this country for other purposes than practising as a dentist. But the section does not mean to entitle any such person to practise in this country, and the moment he held himself out to obtain patients in this country then he became liable to conviction under the Dentists Act. This interpretation of the quoted section was fully admitted as just by the advocate for the defendant and adopted by the bench. The defendant was convicted and fined with costs, but under entreaty the amount was limited to the ordinary costs of the Court and the railway fares.

The purse of the Association will not escape unharmed, but money spent in a conviction and the legal interpretation of a clause, the exact bearing of which the general reader could not with certainty determine, is well laid out.

It is not likely the Association will be troubled with a similar prosecution; should however a second case arise, its conduct will be attended with less cost and trouble, now that the legal interpretation of what we may call the visitors' clause of the Act, has been given and made public.

The provisions of an Act, are of necessity drawn in general terms, the application of which in individual cases have in the first instance, when there is any chance of doubt, to be determined in Law Courts. Thus is their meaning fixed for future use. Many Acts require, for their successful working, very frequent application to the courts. The Dentists Act has hitherto required but little costly legal assistance in its administration, a circumstance favourable to the opinion that it was drawn with care and intelligence, though falling short of our wishes, and

sadly short of the unreasonable expectations of those whose experience in the drafting of Acts, and of their subsequent working is limited.

Cocaine.

THE properties of cocaine, anæsthetic and otherwise, are at present attracting a great deal of professional attention. There is a kind of cocaine fever abroad among us; we can scarcely take up any periodical devoted to medical or surgical topics without encountering some items of news *in re* cocaine; such being the case it will not be uninteresting to take a rapid glance at the claims set up for the fashionable drug by its many advocates.

We publish in this number a very interesting disquisition from the pen of Mr. W. A. Hunt upon the properties of cocaine, as a local anæsthetic, during the extraction of teeth. Mr. Hunt does not content himself with the application of the drug to the gums, justly arguing that such a plan is likely to prove disappointing, owing to the obstacles presented by the saliva, which, to some extent, both protects the surface and removes the drug; this may possibly account for the apparently capricious action of cocaine so applied, at times working wonders and at other times failing altogether. Mr. Hunt injects the cocaine right into the tissues surrounding the root with so far a uniformly satisfactory result. Mr. Hunt's paper, however, speaks for itself and we will not here anticipate what he has to say.

The use of cocaine is not apparently altogether free from unpleasant risks, some of them very serious indeed. The drug has been extensively used in ophthalmic surgery for some time past, and it is in this direction, perhaps, that we may look for the most valuable experiences of its properties. It is therefore with considerable interest that we

learn that at a recent meeting of the ophthalmological society a discussion was raised by Mr. Nettleship, in which Messrs. McHardy, Edgar Browne, Marcus Gunn and Lang took part, in the course of which it was rendered pretty evident that solutions of the drug were very apt to deteriorate and become the seat of a micro-organic growth, and that such deterioration had actually induced panophthalmitis after some operations. This discussion was followed by some correspondence suggesting that the solution should be made up with bichloride of mercury or boracic acid to obviate the evil. Mr. Hunt prefers to make his own solution fresh when he wants to use it.

Subsequent suppuration is not, however, the only ill that may attend the use of cocaine; there is another danger to which, however, only the wealthier members of the community will be exposed at present. Dr. Louis Bauer at a meeting of the Mississippi Valley Medical Society, September, 1885, related the following case:—"A man used alcohol to excess," and Nature (whether to punish or to oblige the man is not clear) endowed him with an "inordinate thirst." It became plain to his friends that these conditions were re-acting upon each other, and apparently threatening the man's comfort and health, the more thirsty he became, the more he drank, but the next day found him thirstier still. To obviate a serious crisis professional assistance was invoked, and the alcohol forbidden, but the thirst raged in so terrible a fashion, that hydrochlorate of cocaine was injected hypodermically to relieve it, and the next thirst was dealt with in the same way; the patient became docile, and began to use the cocaine on himself, beginning with the $\frac{1}{8}$ of a grain, he increased the dose to ten grains subcutaneously. "He has now an aversion to alcohol, but has acquired the cocaine habit." This is, indeed, a princely method of self-indulgence, with cocaine three shillings a grain.

In another quarter of the world, St. Petersburg, we read of Dr. Manassein going on a sea voyage, armed with a bottle of muriate of cocaine. He administered a weak solution, in teaspoonfuls, to the trembling victims of sea sickness, and though the sea rolled in a very trying manner, even those most liable to the malady were absolutely free. Two people were dosed before starting, and to quote the curious expression of a contemporary, "were for the first time in their lives free from sickness"! a girl, of eighteen, who had been sick for twenty-four hours, after the sixth dose "jested (!) and complained of hunger," in fact, the doctor's bottle very soon ran short, and so his experiments were arrested. The same gentleman has arrested the collapse in cholera, and the vomiting of pregnancy with cocaine, in short, the drug appears to have a very "all round" sort of efficacy.

According to Dr. Beyer, the action of cocaine on the heart is stimulant in small doses, in medium doses inhibitory on the ventricular contractions, in large doses it stops the heart in diastole. It can cause contraction of the blood vessels independent of any action on the central nervous system. These statements are not quite borne out by the observations of Dr. Kruger, who, as the result of many experiments upon frogs and rabbits, concludes that cocaine paralyses the sympathetic, and consequently produces instant relaxation of the arterioles. The direct physiological action of the drug is therefore still a matter of dispute. Be that as it may, there can be little doubt that cocaine is capable of producing a valuable local anæsthesia; no doubt just at present the accounts of its talismanic efficacy in various directions are a little romantic, but when all this has been allowed for, and the extravagancies of fashionable *furore* discounted, a useful and substantial addition to our pharmacopœia will remain

Some interesting information will be found in an American work upon the subject, from the pen of Dr. Knapp, of Boston.

A Recent Paper on Dental Education.

THE education of the coming generation of dentists is a topic of never-ending interest, seeing that it is a matter which can never be settled for all time, but must change concomitantly with changes going on around it if it is to be always the best curriculum possible at the time.

In the thoughtful address delivered in March last at Birmingham, Mr. Huxley gives expression to doubts which have been felt as to the advantage derived by the students from certain parts of the present curriculum, and suggests modifications.

With many of his comments we most fully concur, but we think that he hardly accords to lectures their proper function when he proposes to eliminate all mention of comparative odontology, and to greatly increase the number of lectures upon dental surgery.

If it were possible and desirable that a lecturer should take a student over the whole extent of his subject, and that listening to lectures were to be equivalent to poring over his text-books, then Mr. Huxley's position would be unassailable. But a lecturer cannot by any possibility do this in short courses of lectures, and if he attempts it he will fail either to effect that or any other useful object; it is, however, in his power, if he has any gift as a teacher, to do something else which is far more useful to his hearers. He may take up certain points and treat them fully and even discursively; he may show his hearers how to so marshall and pigeon-hole a number of apparently dry details that they will acquire a new significance and an

unexpected interest in their eyes ; he may introduce them to speculations—so vivify and clothe with flesh the dry bones of ascertained fact that his class will soon learn that the sum of attainable knowledge is not bounded by the covers of their text-books. To put it shortly, he may teach his pupils to think about what they read and learn, and train them to be investigators themselves, and those who have had the advantage of listening to a teacher who does this even in a small degree, will not be apt to complain that his lectures have failed to go systematically over the whole ground.

Now this sort of thing can be done as well in a short course of lectures as in a long one, and perhaps better, and comparative anatomy, to which after all but a very small part of the course on dental anatomy and physiology is usually devoted, is an inexhaustible mine of illustration and instructive comparison, so that we should be very sorry to see it struck out of the syllabus.

And upon the same ground we should not like to condemn the student to sit out a hundred lectures on Dental Surgery, although it is beyond doubt that he would derive benefit from hearing the ideas of several teachers. This, however, he already does by being brought into contact with them on their days of attendance at hospital practice, so that this presumed weak point is pretty well met already.

Then, again, as to the question of too much time being devoted to the acquiring of a smattering of general medicine and surgery, some parts of which the future practitioner will never make use of ; here we can only judge by the results. As a matter of fact the dentist, even if fairly educated as a surgeon, rarely escapes drifting, after a few years of busy practice, into very narrow specialised views, and if this be true, as we fear we must confess it to

be, it would be surely disadvantageous to strike out of a curriculum already very special, that little which would tend to enlarge the mental horizon of the learner.

ASSOCIATION INTELLIGENCE.

Central Counties Branch.

THERE will be a meeting of this Branch on Thursday, January 21st, at 71, Newhall Street, Birmingham, at 5.30 o'clock, when a paper will be read by Prof. Poynting, of Mason's College; other communications have been promised. All eligible members of the profession residing in the district are cordially invited to attend. Coffee will be served before and after the Meeting.

A MEETING of the members of this Branch was held at the Dental Hospital, 71, Newhall Street, Birmingham, on November 16. Among those present were Messrs. F. E. Huxley (President), T. Norman, C. Sims, J. Humphreys, F. W. Richards, F. H. Goffe, W. Palethorpe, I. E. Herdern, J. Madin, Clifford Batten and Breward Neale, Hon. Sec.

Dr. SNOOK, of Birmingham, and Mr. Peyton Levason, of Hereford, were elected members of the Branch, and other routine business transacted, after which Mr. Breward Neale read his paper on "The Treatment of Weak Teeth," which led to a well sustained and interesting discussion. The President, Messrs. Sims, Humphreys, Goffe and Richards taking part, and Mr. Neale having replied,

Mr. CLIFFORD BATTEN read a paper on "Hygiene of the Oral Cavity." This also was fully discussed and many interesting items were brought to light, after which various specimens of interesting pathological conditions were brought before the meeting, including one by Mr. Batten, of a lower molar and sequestrum, embracing the whole of the alveolus round the tooth, the condition having been caused by the application of arsenic to a slightly exposed pulp in a masticating cavity—the arsenic having been allowed to remain in the tooth for three weeks. The meeting closed with a hearty vote of thanks to Messrs. Neale and Batten for the papers. The next meeting was announced for Thursday, the 21st January, 1885, at 5.30. The Council indicated their intention to supply coffee and sandwiches, both before and after future meetings.

Galloway v. Blake.

TRANSCRIPT of the shorthand writers' notes of proceedings at the Sheffield Town Hall, before the Mayor (Alderman J. W. PYE SMITH) and Mr. H. J. DIXON, on the 21st December, 1885.

Mr. R. E. MELSHEIMER (instructed by Messrs. BOWMAN AND CRAWLEY-BOEVEY) appeared for the British Dental Association.

Mr. W. E. CLEGG (Messrs. CLEGG & SONS) represented the defendant.

Mr. MELSHEIMER: In this case I appear for the prosecution, the defendant, John William Blake, being charged with an offence under the Dentists Act, 1878. I do not know whether you have a copy of the Act before you, but there are one or two of the provisions to which I shall have to refer before stating the facts. The statute is 41 and 42 Vict., ch. 33, and the 3rd section is one of the important ones to which I shall have to refer you, under which it is an offence if any person takes or uses the name or title of "dentist" or other words or descriptions implying that he is registered under this Act, or that he is a person specially qualified to practise dentistry, unless he is registered under this Act. The defendant is not registered under the Act. The offence that he is charged with is that of using the name or title of dentist, and in the alternative other descriptions, implying that he is specially qualified. The facts are these. He has been practising here since last year, keeping the usual sort of dentist's establishment, advertising in the local papers, issuing circulars for trading purposes, and having his name on the door-plate outside the place he practises at, and in fact doing everything you would expect a dentist in this town would do. His attention was called to the fact that he was transgressing the provisions of this Act by the Secretary of the Dental Association, who wrote to him a letter in June, which I will not read at present but the Secretary will prove it, calling attention to the fact that he was committing a breach of the Act, and he then replied through his solicitors, who relied upon the provisions of the 4th section of the statute, and that would constitute his defence. If we go on to the next section, it says a person is not guilty "if he shows that he is not ordinarily resident in the United Kingdom and that he holds a qualification which entitles him to practise dentistry or dental surgery in a British possession or foreign country, and that he did not represent himself to be registered under this Act." Of course it is not for me to anticipate how he will show these matters, but one interesting fact took place immediately after this letter in which he stated that would be his defence, and which I mention as perhaps it may help you to come to some decision as to the *bona fides* of the defence. It is this. A few days afterwards he caused the name of his father to be substituted for his own as tenant of the house in which he practised. No doubt he would think that would give colour to the statement that he

is not ordinarily resident in this country, but he has however continued to be an ordinary resident up to the present moment, and is so now, and is practising in Sheffield. However, the fact that he has caused his father's name to be substituted, I mention as being one of the things which would test his *bona fides*. It would not affect the case of the prosecution, which, I apprehend, will be this: it will be for you to put an interpretation upon the words "ordinarily resident," and to decide whether, upon the facts, after I have proved them, defendant is or is not ordinarily resident in this country. I would remind you how questions of domicile are dealt with. The point really for you to decide is not what he has done in the past, but what his intention is with regard to the future. Do the acts I shall prove he has committed evidence an intention of continuing permanently or rather ordinarily resident? It is not the length of time he has been actually at work, so much as the view you take of his intentions with regard to the future. It may be a man may be for a year or more in this country through a series of accidents, or is intending to return to his own country and does not do so; or a man might be only one single week, taking up his abode in such a way as to be ordinarily resident. Then the second remark I wish to make on that section is this—that in construing those words, I shall ask you to construe them with reference to the scope of the Act and the intentions of the Act. Of course the Act is directed against the persons who practise dentistry here without proper qualification, and I shall submit that those words in this statute would really mean that a person who is in this country for other purposes than practising as a dentist, who is perhaps attending, it may be, a medical congress or something of the kind, is allowed to use the word dentist, if a foreign dentist, and it is no offence; but the section does not mean to entitle any such person to practise in this country, and the moment he holds himself out to obtain patients in this country, then I submit he would become liable to conviction under this Act, unless he takes the steps which the Act directs, and causes himself to be first registered as a dentist practising here. Then as to the other clauses in that section, I will not say anything about them yet, because I hope nothing will arise upon them. I think it will all turn on the construction you put on those words. I will now lay the facts before you, and we shall hear what the evidence will come to.

Mr. CLEGG objected that the information was irregular in form, but his objection was over-ruled by the Court.

Mr. MELSHEIMER: In section 4, sub-section 2 of the Dentists Act, the last paragraph provides that a prosecution for an offence shall not be instituted, except with the consent of the General Council. I, therefore, call Mr. Miller to prove that consent.

Mr. WILLIAM JOHN CLARKE MILLER examined by Mr. Melsheimer:—

Q. Are you the Registrar of the General Council on Medical Education?

A. Yes.

Q. Is it part of your duty to record the proceedings of the General Council?

A. Yes, it is.

Q. Do you produce the report of the proceedings of the General Council of the 19th November last?

A. Yes.

Mr. CLEGG objected that the proceedings of the Council could not be admitted in evidence, but his objection was over-ruled by the Court.

Q. Mr. MELSHEIMER: Do you produce the report of the minutes of the proceedings of the 19th November?

A. I do.

Q. And of the 20th in confirmation of those of the 19th?

Q. Mr. MELSHEIMER: Do you produce those minutes?

A. Yes.

Q. And now will you tell me whether in them it appears that a resolution was duly passed giving permission to the prosecutor in this case to prosecute the defendant?

A. Yes.

Mr. CLEGG objected.

Mr. MELSHEIMER: I put those minutes in. As the objection is raised, I may say this section imposes on the prosecution the condition of having this consent. The consent must be proved, and it is proved by putting in the actual resolution itself, produced in proper custody.

Mr. CLEGG again objected.

The MAYOR: I am satisfied with the evidence.

Mr. CLEGG: Well, it is for you to be satisfied, not me.

Mr. JOSEPH HARRISON was then examined by Mr. MELSHEIMER.

Q. Mr. Joseph Harrison, are you a dentist practising in Sheffield?

A. Yes.

Q. At 289, Glossop Road, I believe?

A. Yes.

Q. Do you know the place where the defendant practices?

A. I have seen his place.

Q. Does this (handing witness a photograph) give a correct description of the door plate, or whatever you may call it—the plate outside his wall, and the inscription on his window?

A. Yes.

Q. Do you know how long he has been practising on these premises as a dentist?

A. I could not say exactly. I should say about twelve months or so.

Q. Has that plate with "Dentist" on it been in that position all that time as far as you know?

A. Yes, as far as I know.

Q. Cross-examined by Mr. CLEGG: That card is rather indistinct in some matters. It has on "J. W. Blake, D.D.S., Graduate of Philadelphia Dental College, U.S.A." That is small print isn't it, Mr. Harrison?

A. Yes.

Q. Do you know what the letters "D.D.S." mean?

A. Well, we generally understand them to mean "Doctor of Dental Surgery."

Q. Do you know there is such a College?

A. Yes.

Q. Have you heard of it?

A. I have heard of it through that medium there (pointing to the circular.)

Q. Do you know that they grant diplomas?

A. I do not know. I have not heard of it.

Q. Looking at this sign here, did you know that J. W. Blake, D.D.S., held himself out to be a graduate of this dental College?

The WITNESS: And a dentist?

Mr. CLEGG: And a dentist?

A. Yes.

Mr. MELSHEIMER: This point has been raised about the degree. I propose to put Mr. Miller back in the box now, and I refer the Bench to sections 9 and 10 of the Dentists Act, which provide simply that certain foreign diplomas are recognisable in England. By section 10 it is enacted that a certificate so recognisable in England, must be recognised by the General Council, subject to appeal to the Privy Council.

Mr. Miller was then recalled, and examined by Mr. MELSHEIMER as to whether possession of a diploma of the Dental College of Philadelphia would entitle the holder to registration under the Dentists Act.

Mr. MILLER having replied in the negative, was cross-examined by Mr. CLEGG:—

Q. (Handing witness a diploma.) Whose is that?

A. So far as I know, that is a genuine document of the Philadelphia Dental College.

Mr. CHARLES SCHWABE, examined by Mr. Melsheimer:—

Q. Mr. CHARLES SCHWABE: Do you live at 128, Carlton Road, Attercliffe?

A. Yes.

Q. Have you called at the defendant's premises in Abbeydale Road?

A. Yes.

Q. Did you go to consult him as a dentist?

A. Yes.

Q. Did you see him himself?

A. Yes.

Q. And did he personally give you these cards (produced)?

A. Yes, I believe they are the cards he gave me.

Q. Did you find his room fitted up with the general appliances of a dentist,—operating room, operating chair, table, &c.?

A. Yes.

Q. Any instruments?

A. Well, I didn't see any instruments.

Q. Did you notice what was in the window and on the wall outside. Does that photograph correctly represent it?

A. I believe it was on. I could not say.

Q. I believe you did not go any further and allow the defendant to operate on you?

A. No. I only inquired about the price.

Q. The MAYOR: About a set of teeth?

A. About a couple of teeth.

Q. Cross-examined by Mr. CLEGG: What are you?

A. A cashier.

Q. Did anybody ask you to go and make these enquiries?

A. Yes.

Q. Who asked you to go?

A. Mr. Harrison asked me to go.

Q. A rival dentist?

A. Yes.

Q. You were not operated upon?

A. Oh, no, certainly not.

Q. The MAYOR: He answered your question and gave you your price?

A. Yes.

Q. Mr. MELSHEIMER (to Mr. Harrison): Mr. Harrison, do you represent the Dental Association in Sheffield.

A. Yes.

Mr. MELSHEIMER: Not a rival dentist, but a representative of the Association.

Mr. EDWARD ATKINSON, examined by Mr. Melsheimer:—

Q. Mr. EDWARD ATKINSON: Did you take that photograph?

A. Yes, sir.

Q. Did you see Mr. Blake at the house at the time?

A. No.

Mr. MELSHEIMER: I thought you did.

The WITNESS: Some one raised the blind. I did not see who it was.

Q. Cross-examined by Mr. CLEGG: He is not included in the photograph, Mr. Atkinson?

A. No, sir, he is not.

Mr. HENRY TOOTHILL examined by Mr. MELSHEIMER.

Q. Mr. HENRY TOOTHILL: Are you the agent to the landlord of these premises in Abbeydale Road?

A. Yes.

Q. When did the defendant come and take the premises from you ?

A. The 1st of January, 1885, the tenancy commenced.

Q. I suppose he had engaged them a little previously ?

A. He went into occupation on the 1st of January.

Q. Did he call on you in July ? Have you any memorandum in your book of his calling upon you ?

A. No.

Q. Did he see you in July ?

A. I saw him in July.

Q. What took place in July ?

A. In July he gave a memorandum.

Q. What date ?

A. On the 3rd of July, I believe, was the date. On the 3rd of July of this year he asked that the tenancy of the house might be transferred to William Blake. He saw my clerk and he gave—

Mr. CLEGG : Stop a minute.

Mr. MELSHEIMER : Have you the memorandum that he sent ?

A. Yes.

Q. Cross-examined by Mr. CLEGG : Do you know his handwriting ?

A. Yes.

Q. Have you seen his handwriting ?

A. Yes.

The memorandum was here read as follows:—"45, Abbeydale Road. Henry Toothill, Jun., I, John William Blake, hereby authorize you to change the tenancy of the above house, now occupied by me, to William Blake, my father, and credit him with all rents paid from June 1st, 1885. Signed, J. W. Blake, July 3rd, 1885."

Q. By Mr. MELSHEIMER : Did Mr. Blake, the defendant, continue to occupy, notwithstanding this change ?

A. Yes.

Q. And still occupies, I believe ?

A. Yes.

WALTER READ GALLOWAY examined by Mr. MELSHEIMER.

Q. You are Walter Read Galloway ?

A. Yes.

Q. Are you a clerk to Messrs. Bowman and Crawley-Boevey, Solicitors to the British Dental Association ?

A. Yes.

Q. And you prosecute in this case ?

A. Yes.

Mr. CLEGG : May it please your worships, in this case, my friend, who appears for the complainant, has partially told your worships what the evidence originally was—

Mr. MELSHEIMER : I must apologise for having forgotten to put in

these letters, but the letters will conclude the case. Mr. Canton, the Secretary of the British Dental Association, writes to the defendant :

BRITISH DENTAL ASSOCIATION,

(Incorporated June, 1880)

40, Leicester Square, London, W.C.,

24th June, 1885.

SIR,—I beg to call your attention to the fact that the use of the term or designation "Dentist," either alone or in conjunction with any other word or words, or the use of any description implying that he is a person specially qualified to practise dentistry, by any one whose name is not on the Dentists' Register, is illegal and punishable.

As, however, the Dentists Act is comparatively of recent origin, and so you may be ignorant of its provisions, or you may possess some qualification which you suppose entitles you to the use of this designation, I shall be glad to hear from you on the subject before bringing your case under the notice of the Executive of the British Dental Association.

I may state that the Association has no desire to deal harshly with any inadvertent infringement of the law, but that the main object of its existence is to carry out the spirit of the Dentists Act, and that it will resolutely proceed against all who purposely infringe its provisions.

I am, Sir, your obedient servant,

(Signed) F. CANTON, *Hon. Sec.*

Mr. MELSHEIMER : And this was the reply:—

Victoria Chambers, Figtree Lane, Sheffield,

June 26th, 1885.

DEAR SIR,—Our client, Mr. J. W. Blake, has brought us your letter of the 24th inst., with instructions to reply thereto. The facts are simply these:—Mr. Blake is an American subject at present residing in this country, and is a graduate of the Philadelphia Dental College, U.S.A., and he does not represent himself in any shape or way as being qualified to practise dentistry under the Dentists Act, 1878, but claims exemption under the proviso mentioned in section 4 of the Act.

Under these circumstances he thinks that he has committed no offence, or by continuing in the way he is doing will not commit any offence under the Act mentioned by you.

Yours truly,

W. J. CLEGG & SONS.

Mr. F. CANTON,

British Dental Association,

40, Leicester Square, London, W.C.

Mr. CLEGG : In answering this information, which has been laid o-day by Mr. Galloway, on behalf of the British Dental Association, I have one or two points to raise before your worships, which I submit will justify your worships in saying that the defendant himself has committed no offence whatever, under the Act of Parliament under which these proceedings are taken. In the first place, I would point to section 4 sub-section 1, which provides that a person "shall not be guilty of an offence under this Act, if he shows that he is not ordinarily

resident in the United Kingdom, and that he holds a qualification which entitles him to practise dentistry or dental surgery in a British possession or foreign country, and that he did not represent himself to be registered under this Act." Now, with regard to the first point, about not being ordinarily resident in this country, I say I do not think it can be sustained, and I am willing to admit that the interpretation put upon it by the learned counsel is the reasonable construction that can be put upon it ; and if Mr. Blake has resided in this country for twelve months, and taken a house, and held himself out to be practising in this particular branch of business, I should be only wasting your time in saying that this gentleman, although an American subject, is not ordinarily resident in this kingdom. But I lay great stress on this, that he has a qualification from a foreign country which entitles him to practise dentistry in that country, and that he did not represent himself to be registered under this Act and for that purpose. I call your attention to the various documents put in by the prosecution, and first of all will take the photograph, which clearly shows what this gentleman's qualification is. You will see on the sign "J. W. Blake, D.D.S., Graduate of Philadelphia Dental College, United States, America," and then underneath, is the word "Dentist," and I submit that shows that the defendant, by putting on his sign that he is a graduate of this college, clearly shows that from that college it is where he has got his qualification. Mr. Clegg then proceeded to argue that the defendant had not represented himself to be registered under the Dentists Act, and that there was no evidence to show that he had been guilty of any offence. He further suggested that the proceedings had been instituted by rival dentists, and asked that the summons might be dismissed.

Mr. MELSHEIMER : One word about the suggestion of this prosecution being instituted by rival dentists. The particular object of this last clause of the 4th section shows the care the legislature took that such a thing should not happen. To guard against anything in the nature of private prosecution, the highest and most impartial medical tribunal that could suggest itself to the Legislature—not the Select Council on Dentistry alone, but the General Council of the Medical Profession of the whole kingdom, combining dentistry and every branch, in fact, the highest tribunal conceived—has first to consider any prosecution and decide. Therefore, to make a suggestion not founded on evidence is not justifiable, and it does not always further the case of the man who makes these suggestions.

Mr. CLEGG : I object to my friend making any further observations.

The MAYOR : I think you are not entitled. No evidence has been called, and the case for the defendant is closed.

The MAYOR (after consulting with Mr. Dixon) : The bench are of opinion that the offence charged in the summons has been committed by the defendant. It is not attempted to be shown that he is a

foreigner not ordinarily resident in the United Kingdom. It appears to me and to Mr. Dixon that under section 4 all these things must be shown—that he is not ordinarily resident in the United Kingdom, and that he holds a qualification which entitles him to practise dentistry or dental surgery in a British possession or foreign country, and that he did not represent himself to be registered under this Act. Well, the attempt seems to be given up to show that he is not ordinarily resident in this country. Certainly he has not succeeded in showing that he holds a qualification which entitles him to be registered in this country, and he has used the word “dentist” which, in the opinion of the bench, does hold himself out to be a person registered under this Act entitled to practise dentistry in this country. We do not think the words “Graduate of Philadelphia Dental College, U.S.A.” in any way qualify the use of the word “dentist.” The word “dentist” is clearly used, and I think manifestly with the intention of creating the impression that the person using it, Blake, was registered in this country, and duly qualified to practise.

Mr. CLEGG : With regard to the penalty, your worships will see that the defendant has been under the *bona fide* belief that he was a properly qualified person. The letter written by Mr. Canton in the first instance, and replied to by my firm, show there was a doubt, and that being the fact, I submit that a very small penalty will meet the justice of the case.

The MAYOR : I speak for myself ; I do not feel quite satisfied as to the *bona fides* of the defendant. The penalty the bench agree to inflict is £5 and the costs.

Mr. MELSHEIMER : Our costs are heavy. I do not know whether the costs given are commensurate with the costs the prosecution incurred.

Mr. CLEGG : Bearing in mind that this is a public body, I ask if the costs should be included? The penalty is somewhat heavy. It is a serious thing for the defendant.

The MAYOR : I think the costs should follow the result.

It was ultimately agreed that the ordinary court costs and railway fares should be allowed.

WE are requested to insert the following statement :—“ Mr. T. G. Williams, L.D.S.Eng., on and after January 1st, 1886, will be associated with Mr. George Beavis, of 10, Stow Hill, Newport, Monmouth.”

ORIGINAL COMMUNICATIONS.

Suggestions on the Use of Cocaine in Dental Surgery.

By W. A. HUNT, L.R.C.P.Lond., &c.

My suggestions refer almost exclusively to extraction of teeth, or removal of tumours. So far as I have seen, the evidence in favour of the *external* application of this alkaloid has been cloudy, and often contradictory; so much so that I have never had the curiosity to so use it in the mouth. Yet of its anæsthetic powers I was long ago convinced, for a year ago my friend Mr. Nettleship had employed it with most gratifying success in no less than 100 cases of eye surgery, using it first by dropping a solution of a given strength on the conjunctiva, and afterwards by means of gelatine discs in a similar manner to that in which atropia and other alkaloids are used by ophthalmic surgeons. But the absorbing power of the ocular conjunctiva is known to be very great, and thus cocaine acts admirably. I had not long ago an opportunity of questioning a patient (the subject of divergent squint) whom I sent to Mr. Nettleship; he used cocaine, and divided the external rectus; the operation was painless.

Now in the mouth, the mucous membrane does not seem to have the same absorbing power, and it is frequently covered with a thick mucous secretion, which is an immense barrier to absorption; moreover there is in the mouth the difficulty of keeping the agent at the spot for the time needed to produce anæsthesia. I therefore determined to use it hypodermically.

My first dozen cases of extraction I took notes of. In some the patients after severe questioning declared that they absolutely felt no pain of any kind during the entire operation; *all* the rest said the pain was all but done away with, and they were without exception most gratified. Now with greater experience I hope to obtain yet better results, and I give my *modus operandi* as I carry it out.

My first cocaine came direct from Darmstadt and cost three shillings a grain; it was fairly soluble in water. My next I obtained from Reynolds and Branson, of Leeds. This was very soluble indeed, and answered well. My last supply came from a French source. It is sparingly soluble in water, but dissolves when heated in a test tube with water. This variety has also excellent anæsthetic properties. These three samples were

all sold to me as hydrochlorates; yet in solubility at any rate, they all differed. My hypodermic syringe has a capacity of nine minims, and is furnished with a steel needle, which is easily kept sharp with an oilstone, and is better than gold which too easily becomes blunt. The syringe being filled with hot water, its contents are squirted into a small short test tube, at the bottom of which one grain of hydrochlorate of cocaine has been placed. If the salt shows no disposition to dissolve you can heat the test tube gently over the spirit lamp until the solution is perfectly clear; then dip in your syringe and take up four minims. Puncture the gum first on the buccal aspect about the centre of the tooth you propose to extract, pressing the needle as vertically as you can, so that its point may reach nearly as far as the apex of the root. The pain of the puncture is usually very slight, and is hardly regarded as the needle passes onwards. If the sloping surface of the point is turned towards the alveolus, there is less chance of the bone arresting the onward progress of the needle, and this is the chief difficulty in injecting. Having thrust the needle as far as needed, press the piston; often it will not yield even with force, but if you wait patiently, keeping up firm pressure and perhaps rotating the needle, or even withdrawing it a little, the solution will assuredly flow into the tissues. Keep the needle there half a minute to prevent the possibility of any of the solution escaping by the puncture. Then re-charge your syringe with the four or five minims of the solution still remaining in the test tube, and in a similar manner inject deeply the tissues on the lingual side of the tooth. It is remarkable how, when your patient is at the moment suffering from toothache, entire freedom from pain occurs in five or ten seconds after even the first injection.

You have now quickly and deeply injected a strong, hot solution of the agent, the conditions for rapid absorption are thus excellent, and in two minutes, or even less, you can operate with forceps, elevator, or splitting forceps, as may be required.

I have never injected less than a grain, but where the solution has flowed out through the puncture, of course there has been a waste of power.

As solutions of this agent do not keep, I have never used anything but a solution I have prepared myself immediately before the operation, as above described. If you cannot depend upon the accuracy of your chemist, use delicate scales, and weigh the

cocaine yourself. The grains may be folded in small papers separately and put into a small stoppered bottle, so that no time may be wasted. I mention accuracy, as, if you take the trouble to weigh reputed grains, you will be astonished what different quantities they sometimes represent. That the question of using a freshly prepared solution is not a fanciful one, is shown by the discussion at the late meeting of the Ophthalmological Society, where evidence was brought forward by more than one member to prove the occurrence of irritation and inflammation after using solutions which had been kept for some time. Now, with hypodermic injections, this is a danger that must never be lost sight of, and there is good reason for my bringing it forward. Likewise the syringe must be kept scrupulously clean, for it has often to be passed through tissues filled with the products of inflammation; so after use it should be very carefully wiped clean, and I then draw a few drops of liquid carbolic acid up and down the needle, and then wipe it dry.

My opinion is, that where there is much infiltration (by the products of inflammation) in the tissues, a slightly larger dose than a grain may be wisely given, and a minute or so more granted for time for absorption. On a trial injection of half a grain under the skin of my own forearm, the anæsthesia as determined by the pricking of a needle was absolute, but I was surprised to find that the area of absolute anæsthesia was not larger than about a quarter of an inch square; outside that boundary sensation seemed in no way impaired.

I have not observed as yet any constitutional symptoms follow this method, nor have I as yet found the injection to cause any local irritation.

On Section-making of Hard Tissues, especially of the Teeth.

By T. CHARTERS WHITE, M.R.C.S. and L.D.S.Eng.*

It is not necessary to the making of a good dentist that he should be an accomplished histologist, any more than that an accomplished histologist should of necessity be an efficient dentist. But it may be necessary on many occasions that he should know

* Read at the Annual General Meeting at Cambridge, 1885.

of a ready and effective method of making sections of teeth when desirous of examining the internal structure of such abnormal specimens as now and again crop up in his practice ; and by this I mean, not a simple slice, which may tell him anything or nothing, but such a section as will shew him all and everything, regular and irregular, which a good section should show.

It is my desire in this short communication to give a few simple directions relative to what may be found in most text-books on histology, but, at the same time, to supplement them with some practical suggestions which I have found useful and which may be of utility to others likely to be called upon to make sections of hard tissues, but of the teeth in particular.

If we take any ordinary section of tooth purchased at a dealer's, unless it comes from a very expert and painstaking preparer, what do we see? Many times a specimen more or less transparent, with the tubular structure of the dentine obliterated, or if not entirely obliterated, covered by patches of translucency which mar the general appearance as well as detract from the perfect utility of the section ; the edges may be fractured and jagged, presenting a very untidy appearance, and, taken altogether, but a meagre presentation of all the beautiful and instructive detail which characterises a well-made specimen. Even in those sections made with all care by ourselves, unless we adopt certain precautions, we may have all this detail present in the earlier stages of a section's existence, but be doomed to disappointment and annoyance in its examination after a year or two by the gradual disappearance of its tubular structure. It was this experience which induced me to adopt various expedients for obviating this annoying result, and although the subject of my paper may be considered by some as well-worn and as well threshed out, I am hopeful enough to feel that, by describing the methods I adopt, I may be assisting my brother practitioners to attain results which may be regarded in after years with satisfaction. I wish to be very plain and practical, therefore if my communication appears somewhat of the character of the cookery book of recipes, I hope your pardon will be extended to me—cookery books, though not the highest class of literature, are, albeit, useful in their results and therefore not to be despised.

The text books, in treating of this subject, advise first that "thin slices should be cut from the tooth with a saw." Now, however desirable it may be to cut a tooth into as many sections as possible

in order to be enabled to trace the various phases of structural change throughout its extent, I think I need not remind those who may have attempted it of the number of saws broken, to say nothing of those blunted and worn out in cutting through the enamel of one tooth, and if in the subsequent discussion, which I hope this subject will provoke, anyone will tell us a ready method of overcoming this difficulty, I for one will thank him heartily.

A lapidary's wheel has also been recommended for cutting the rough sections. This would cut but few sections out of many teeth, the number of sections depending upon the thickness of the wheel used, and furthermore very few of us possess lapidary wheels. With care, two or three sections may be cut from a tooth by first cutting through the enamel by wetting a new thin gold file with turpentine and soft soap, and then using a broad frame saw for cutting through the dentine. There is no difficulty after the enamel is passed. This may oftentimes be grooved by a thin corundum wheel on the lathe, and the section cut by the saw afterwards.

The plan I adopt may be a very wasteful one, but till we get a ready means of cutting through the enamel, I am afraid I must continue to recommend and to adopt it. I take a tooth and hold it against the side of a revolving fine corundum wheel (Ash's No. 9 fine) till one side is ground quite flat, then polish that side to the most perfect polish it is capable of receiving on a piece of wet buff leather with some putty powder on it, afterwards take a piece of stout plate glass about two inches square, put a little old and consequently tough Canada balsam on it, warm, and spread it a little larger than your section. Let the balsam cool down till it is "tacky," then press the polished side of the tooth into close contact with the glass. When quite cold, the grinding may proceed, as in the first part of the operation, till you get the required thinness, when that side may also be polished. The hard balsam round the section supporting and protecting the edges, they will not be fractured and made jagged and untidy. In not putting the tooth on to the plate of glass till the balsam is somewhat cool, you prevent the polished surface from being covered by fine cracks, which remind you of dinner plates which a careless cook has overheated till the glaze is cracked in all directions; it also prevents the balsam from running into the tubular structure of the dentine. As the process I adopt for mounting these sections is applicable to all sections of hard tissues, I shall reserve my remarks upon it till I have mentioned another plan of grinding

down the rough slices, which I claim as original, and which I can from long experience recommend on account of its readiness, cleanliness, and the perfect parallelism of the sections produced by it. Having a slice of dental or other hard tissue of moderate thickness, place it between two plates of ground glass with water and a pinch of levigated pumice powder, and by a rotary motion of the upper glass gradually rub the section down till it is thin enough for examination with even the highest powers of the microscope. But towards the end of the process be careful to watch it, for as the glasses get closer together and the section thinner, one turn more of the upper glass will sometimes result in the total disappearance of an hour's work, and you will be eligible to take rank amongst beings of a very high order if an explosion of your private opinion does not occur. It is, however, better to avoid any such eruption, by using some of the older pieces of ground glass, which from repeated use have become rather polished and smooth. These may be employed with safety at this stage, because while they reduce slowly they also polish, and being more transparent than the new glass you are enabled to watch the progress, and stop the grinding in time to avert such an annoying accident as that to which I have just alluded.

Having ground your section sufficiently thin by either of the before mentioned plans, it remains to be mounted in a suitable medium for examination. Of all the media recommended, none fulfil the requirements in so satisfactory a manner as Canada balsam, if certain precautions are observed, of which I shall speak presently. Canada balsam is not, strictly speaking, soluble in alcohol, but is converted by it into a white pulverulent condition. Therefore the plate having the thin section attached to it, such as described in the first method of grinding, may be placed in alcohol, and after a few hours' soaking, the thin section is easily detached without fracture, but will be found coated with this altered Canada balsam, every particle of which must be removed with a clean camel hair brush kept constantly wetted with the spirit; unless this is done the section will look messy and muddled when it is mounted permanently. Having got it quite clean, it may, with the other which has been rubbed down between the glasses, be placed in clean absolute alcohol till you want to mount it.

It might be considered that all this camel hair pencil work might have been dispensed with by placing the section into some

complete solvent of the balsam, such as chloroform, benzole or turpentine, but it must be remembered that by so doing we should bring about the very thing we have been striving all along to prevent. We want to mount our section without the highly refractive balsam running into the minute structure and rendering it invisible, and that is the reason I recommend this treatment by alcohol.

There are two good methods of mounting bone and teeth in Canada balsam, which, while securing the advantage we are desirous of attaining, also preserve in the highest degree the visibility of their histological details. That which I practise is the simpler. Take your section out of the absolute alcohol and let it dry, partially protecting it from dust or other contamination; when nearly dry give it a good soaking in filtered distilled water, that the tubular structure, or any minute spaces like lacuna or canaliculi may become filled with water; afterwards dry its surfaces by wiping them with a clean warm finger, so that all moisture is taken from them, when the section may be mounted in rather firm balsam with very little fear of structure being swallowed up in translucency. The reason blotting paper is not used for the preliminary drying is that the fibres from it adhere to your section and disfigure its appearance. The second method is that practised by a scientific friend, who plunges his section for a moment into an alcoholic solution of white shellac, and quickly withdrawing it, the alcohol evaporates leaving the porous structure completely occluded and protected from the balsam, however liquid it might be. I think that both these methods are productive of such satisfactory results that I can commend them to your careful attention if you should at any time wish to preserve specimens of abnormal dental histology.

There is another method of making sections of the dental tissues which, though not practised on many occasions, yet demands our consideration for a short time before I close my paper, for it may be desirable in some cases to examine a recently extracted tooth with a view of ascertaining the state of the relationship existing between its dentinal tubuli and the pulp. These sections can only be made after decalcifying the tooth and hardening the pulp; there are many methods by which this may be accomplished. Picric acid in a saturated solution is often employed for this purpose, but for a ready solution that is generally to hand there is nothing so effectual as a saturated solution of common alum, with about half a drachm of hydrochloric acid added to each ounce of

solution; steeping the tooth in this for about three weeks leaves the tooth with a consistency of cork, if it is now soaked in glycerine for a few days it may be imbedded and cut into thin sections by any of the usual microtomes. I prefer this to either picric or chromic acid, because it does not stain the hands, and I believe does not produce so much granularity as they do.

I have now reached the limit of the time allowed me, and must thank you for your patient attention, at the same time I must ask your gentle criticisms on a paper which I feel is very short and far from exhaustive, but such as it is I launch it on your favour.

HOSPITAL REPORTS AND CASES IN PRACTICE.

A Case of Facial Neuralgia treated by Stretching and Tearing out a portion of the Infra-orbital Nerve.

BY W. WATSON CHEYNE, M.B., F.R.C.S.

ASSISTANT SURGEON TO KING'S COLLEGE HOSPITAL, &C.

MARY HUNT, æt. 29, was admitted into King's College Hospital on September 22nd, 1885.

Patient ascribes all her troubles to a fall on the face when ten years old, as she has suffered in one way or another ever since. When she was nineteen years old she had teeth removed on the right side on account of decay and neuralgia on that side of face. She states that she was not relieved, and that some operation was performed (from her description, probably section of the infra-orbital nerve). A month after this operation she had an epileptic fit, and these have occurred at varying intervals ever since. Patient menstruated first at sixteen years of age. The operation, however, relieved her pain considerably till about eighteen months ago, when it began to return. All the ordinary remedies have been tried in vain, and the remaining teeth on the right side of the upper jaw extracted from time to time without affording any marked relief. In September last she was sent to me by Mr. Arthur Underwood, to whom she had applied for advice at the Dental Hospital, with a view to operation on the nerve.

Present condition.—The patient is a fairly stout, anæmic looking woman. She complains of constant neuralgic pains in the right side of the head and right upper gum. The pain is greatest in the course of the right infra-orbital and superior dental nerves, but it also affects the right supra-orbital to a certain extent, and the

other nerves on the right side of the scalp. There are various especially painful points, chiefly over the infra-orbital foramen, the right parietal eminence, and the upper gum on the right side. The right upper jaw is edentulous, but apparently quite healthy, though the gum is very painful to the touch. Menstruation regular; has a considerable amount of leucorrhœal discharge.

On September 30th I cut down on the supra-orbital nerve at the point of exit from the upper jaw, and having isolated it, seized it with forceps and stretched it well. Having stretched it as much as possible, I increased the force and tore away part of the nerve (it probably broke about the middle of the infra-orbital canal). A catgut drain and stitches were inserted, and an antiseptic dressing applied. Next day the pain was very much less, the side of the head could be touched freely—a thing impossible before the operation—and the pain in the gum was also less. The wound healed well, and the pain continued to decrease in the head and face. The gum, however, remained painful, though distinctly less tender than before the operation. On October 8th she had an epileptic fit. She was discharged on October 18th.

Her state when discharged and when seen a month later was as follows: the pain in the face and side of the head had very considerably diminished, though it had not entirely disappeared; the parietal eminence was still slightly tender; the part of the cheek supplied by the infra-orbital nerve was anæsthetic, though the area of anæsthesia had distinctly diminished when the patient was seen a month after her discharge from hospital. The gum was, however, still very painful and tender, and though the patient said it was distinctly better, it was still far from well. The patient expressed herself as extremely grateful for what had been done.

REMARKS.—In this case, as the pain was very extensive and severe, and as the posterior dental nerve was distinctly affected, I thought it well to combine nerve tearing with nerve stretching. Nerve stretching alone is generally only temporarily of benefit, nerve division or excision is of very little use, the combination of the two seems to promise better results than either alone. One cause of return after nerve stretching is the inflammatory thickening which is apt to occur around the opening in the bone through which the nerve passes. This is got rid of if the nerve is torn in the canal, more especially in the case of nerves passing through bony canals. There was another reason for combining them in this case, viz., the affection of the posterior dental nerve. If the

nerve were stretched and not ruptured, it was hardly likely that the dental nerve would be affected at all, but it was possible that the greater force required to tear out a portion might tell on the posterior dental. That the pain did not cease immediately does not imply that the case will not ultimately be cured, but should the pain in the gum get worse it will become a question whether it would not be well to open the infra-orbital canal and pull on the end of the nerve and perhaps tear away a further portion.

A Case of Torsion.

By ROBERT H. WOODHOUSE, M.R.C.S., L.D.S.Eng.

THE interest shown by the students in a case of torsion, that I recently performed at the Dental Hospital, in Leicester Square, has made me think that a few remarks on the subject may be not out of place in the pages of the Association Journal. The patient in the case to which I have referred was a little girl, aged eight, the tooth rotated being the right upper central incisor, which was as nearly as possible at right angles to its proper position, the lingual surface facing the opposite central incisor. The upper central incisors were erupted to the extent of about two-thirds of the crowns. The position of the left one being normal. Before performing the operation, a model was taken of the mouth, and the tooth in question cut off from the plaster model close to the cervical edge, then replaced in the desired position, and held by wax. A vulcanite retaining plate capping the six-year-old molars was then made with a bar passing round the fronts of the upper incisors. Nitrous oxide gas was administered. The tooth was turned to its proper position, and the retaining plate placed in the mouth before consciousness was regained. The plate made by one of the students fitted so accurately, having been previously articulated to the lower teeth, that no further adjustment was needed. Throughout the case there were no symptoms of inflammation and no tenderness.

The patient was ordered to take soft food for a few days. When seen by me a week after the operation, the tooth was nearly firm, and quite so a week later, when the retaining plate was discarded the position of the tooth being perfect. Under favourable conditions and with proper precautions, the operation of torsion is a very satisfactory way of treating certain irregularities in the position

of the upper central incisors. Accurate position is secured, and the wearing of regulating plates for any length of time obviated. If the apices of the fangs are fully developed the operation is extremely hazardous, death of the pulp being an almost sure consequence. It is not applicable to the lateral incisors, as the roots are not sufficiently conical to be rotated on their axes. Care must be taken that there is sufficient room for the tooth to be turned, without pressing against the other teeth, also the bite of the lower teeth must be studied. The blades of the forceps should be lined with emery or fine glass paper to prevent them slipping and to protect the enamel from injury. The best forceps are those made for the purpose, with the blades at the edges hollowed to accurately fit the tooth and flanged outwards, so as to check any tendency of the tooth to slip from its socket into the blades of the forceps.

Torsion may readily be brought into discredit, unless great care is exercised in the selection of cases. The operation, it is needless to add, must at all times be performed with extreme caution.

An Unusual Accident.

By CHARLES S. TOMES, M.A., F.R.S.

A PATIENT, aged about twenty-five, recently presented himself with the intention of having the right upper lateral incisor pivoted. A week previously he had had a severe fall in the hunting field, with the result of loosening the upper and lower centrals, and breaking off the lateral incisor short.

On examination, however, the lateral incisor was found not to be broken at all, except that the edge was to a trivial extent chipped, but it had been driven up into its socket vertically, until its cutting edge nearly corresponded with the level of the gum.

Very little pain had been experienced, and when the patient was seen there was only the least trace of inflammation; the displaced tooth was so exceedingly firmly wedged into its new position that not the least motion could be detected when it was pressed upon in any direction. As it was perfectly worthless in the position occupied, I decided to attempt to draw it down, and with this object took an impression and made a small vulcanite splint, which was to be tied on to the bicuspid on each side, and which had holes to which to ligature the lateral if it could be brought down.

In order to enable me to be deliberate in my manipulation, the patient was placed under gas, and the tooth grasped with thin bladed stump forceps, the blades of which had been dipped in eucalyptus oil ; the tooth required as much or more force than would ordinarily suffice for the extraction of a lateral before it could be stirred in the smallest degree, and when it moved from its bed it at once came out. The apex of the root, however, barely left the socket, and it was instantly replaced, and forcible pressure made upon the gum over the socket, both on the labial and parietal aspect ; the gum readily squeezed down on the root, yielding the sensation of there being no bone at all under the finger. The tooth was ligatured to the splint, and has since done well, being quite free from tenderness after the first two days, and firm enough to dispense with the splint on the fourth day.

The principle question to be settled, which of course was considered beforehand, was what plan should be adopted if it came out, which was obviously the most likely thing to happen ; the choice lay between its instant replacement or the removal of its pulp and the filling of its roots prior to its replacement.

I decided in favour of instant replacement, because it is well known that teeth immediately replanted generally do very well notwithstanding that they contain dead pulps, and in this case the complete breaking up of its original socket interposed considerable difficulties in the way of its becoming fixed ; the pulp cavity I propose to open up and fill after the healing of the socket is presumably complete. The risk of abscess is, judging from other cases, by no means great, nor is it immediate, and the objection that the tooth may become discoloured by leaving its pulp in for a time, has far less force, to my mind, than it would otherwise have had in consequence of a case which I treated some years ago, in which a boy knocked out his central incisor, carried it in a dirty pocket for twelve hours and brought it to me begrimed. In this case I enlarged the apical foramen, removed the pulp entire, and filled with oxychloride of zinc, closing the foramen with gold. But though the tooth united and has done perfectly well ever since its colour is not satisfactory ; it has the characteristic colour of a dead tooth, so that the complete removal of the pulp has not been attended with the advantage as to colour which would *a priori* have been expected.

Two Cases of Replantation.

By ARTHUR S. UNDERWOOD, M.R.C.S., L.D.S.Eng.

CASES of replantation are now so common that the publication of the notes of two more requires a word of apology, and my apology is that I have noted certain features of great importance pathologically, and that I think some valuable inferences may be drawn therefrom.

The first case was that of a child of eleven years of age, her left upper lateral had been erupted with the lingual surface very nearly where the labial surface should have been, but not quite. The surface that should have faced outwards to the lip faced inwards and backwards towards the canine. Much ingenuity had been expended upon the regulation of this case without much result. In November, 1884, I removed the tooth and replaced it as near the normal position as possible (the root being bilaterally flattened, turning was out of the question). The tooth and its neighbours were then embedded in Stent for forty-eight hours—during which time slop food was administered. The Stent was then removed and the tooth was quite firm, painless and a good colour. These conditions have not altered since. At the end of a year the tooth was quite normal in appearance and *quite as sensitive to heat and cold* as its neighbours.

The second case was precisely similar, except that the root was round, the result was quite satisfactory within forty-eight hours, and has remained so for twelve months.

The point to which I wish to call attention is this, that any practitioner who might examine these teeth would pronounce them living as far as their pulps were concerned. The colour, which changes *most* in childhood, and in sudden arrests of vitality, because it depends entirely on the amount of hæmoglobin in the tooth at the time, the sensibility to heat, which is as fine a test between a dead and a living tooth as can be applied, and the absolutely healthy clinical condition of the tooth all point to the fact that circulation has been re-established through the apical foramen.

All general pathology is in favour of such an hypothesis. The analogy of M. Reverdin's operation of skin grafting, and the experiments with the cornea mentioned by Mr. Simon show beyond doubt that tissue may be removed and replanted and its circulation restored. Nerve tissue, those who have to combat

neuralgia know to their cost, is reconstructed with embarrassing certainty almost as soon as removed. The objection that the foramen is too *small* to allow the process will commend itself only to minds that are uninitiated in the mysteries of capillary circulation and the pathology of granulations. The appearance of the tooth suggests that its pulp is alive ; pathology would permit us to expect it to be alive. The best tests we can apply confirm its vitality, and I think, should the tooth decay, we shall find a living pulp in the chamber.

REPORTS OF SOCIETIES AND OTHER MEETINGS.

The Odontological Society of Great Britain.

THE usual monthly meeting of this Society was held at 40, Leicester Square, on Monday, December 7th, Mr. C. SPENCE BATE, F.R.S., President, in the chair.

After the reading of the minutes, Mr. JAMES PARKINSON asked permission of the President to thank those who had subscribed for the portrait which had been presented to the Society at its last meeting ; he could not thank them individually, for he did not know who the subscribers were. He thanked the Society also for having so cordially accepted it. He was deeply sensible of the honour which had been conferred upon him, though he did not consider that he had any special claim to the distinction. It had always given him great pleasure to meet his fellow-practitioners, and to do the best he could both for them and the Society.

Mr. COTTERELL showed a large sequestrum which he had removed at the Children's Hospital, Paddington Green, from the mouth of a child aged three-and-a-half years, who had been ill with measles six months before. The case was of interest in connection with a communication on the same subject, made at the last meeting of the Society by Mr. Arthur Underwood.

Dr. ST. GEORGE ELLIOTT showed several contrivances which he had found useful. An Electrical Indicator which he had used when comparing the powers of various batteries for use with the electric mallet. A small syringe easily made at home out of a dropping tube and cork, and which he had seen used by Dr. Dodge, of New York. A new hand piece for the engine of his own invention, the merit of which lay in its simplicity ; the attach-

ment was freed by simply pulling back a catch, there being no cross pin as in the Hodge and other hand pieces. And, lastly, a paper disc carrier similar to those usually sold but with a longer screw, which he found a decided improvement.

Dr. GEORGE CUNNINGHAM described a plan of keeping records of cases by means of cards which had lately been adopted at the Edinburgh Dental Hospital. It was founded upon the "Proposed System of Dental Notation," which he had brought under the notice of the profession in a pamphlet published by the Dental Manufacturing Company. At the top of the card was a diagram of the teeth, printed in light blue ink, on which the operations performed could be readily indicated; below were spaces for particulars respecting the history of the case, treatment, and results. They were kept alphabetically arranged in drawers after the plan of the "card catalogues" in use in many large libraries. Dr. Cunningham showed specimens of the cards and explained the way in which they were filled up. He hoped the example of the Edinburgh Hospital would soon be followed by other similar institutions.

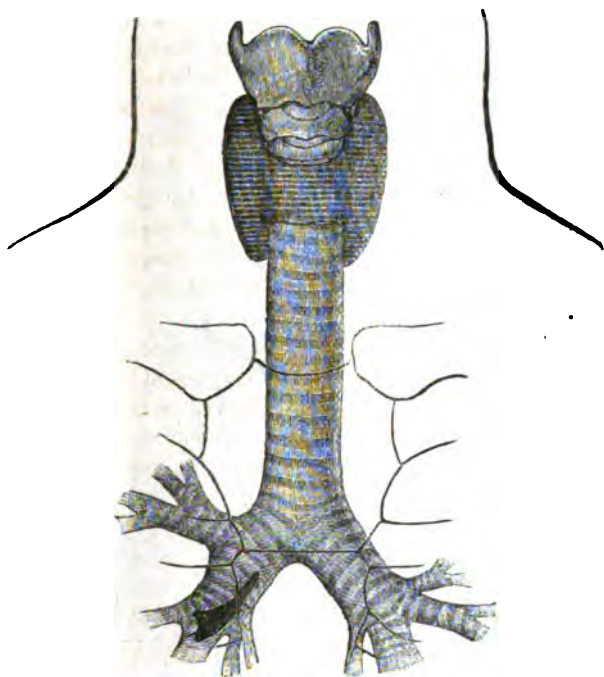
Mr. DENNANT (Brighton) said he had used similar cards for some time past. He had found Dr. Cunningham's system most useful, and was glad of the opportunity of thanking him for it. He hoped its use would become more general, since it would be a great advantage to both dentist and patient if, when a case changed hands, the one practitioner could send to the other a brief record of all important particulars.

Mr. HENRI WEISS showed models of two cases of hypertrophy of the gums. The first was a case of congenital hypertrophy, the patient having been exhibited as "the calf-faced man" owing to his very remarkable appearance. The other patient was a woman who had suffered for six years from slowly increasing bony hypertrophy of the alveolar processes.

Mr. HEPBURN exhibited for Mr. Chas. Sims, of Birmingham, a model of a case of dentigerous cyst of the lower jaw, together with forty-four denticles which were found in it. The patient was a boy, ten years of age, and a report of the case will be found at p. 569 of our last volume.

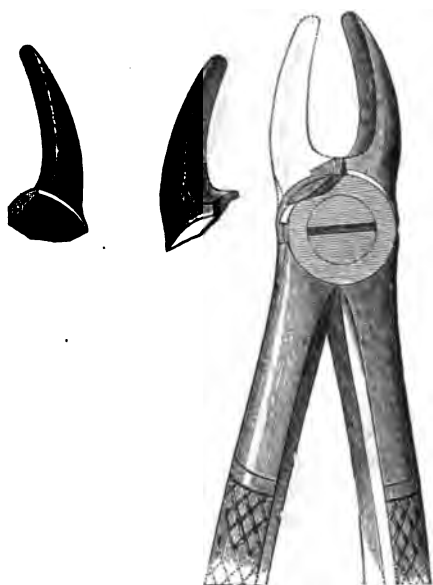
Sir WILLIAM MACCORMAC then gave an account of the distressing accident which had happened to Mr. J. H. Sanders, of Barnstaple, briefly referred to in last month's Journal, and read notes of the subsequent history of the case. A domestic servant,

aged twenty-four, consulted Mr. Sanders about her teeth. Finding a number of diseased roots in the upper jaw, he advised their removal and the insertion of an artificial denture. To this the patient consented provided she was allowed to take chloroform. This was accordingly administered by Mr. Jackson, a surgeon of Barnstaple, and Mr. Sanders having removed some molar roots, next proceeded to extract the right upper second bicuspid, but after



making the usual lateral movements the tooth still remained firm, and on applying traction the forceps slipped. They were re-applied, and the movements repeated with rather more force, when all at once the palatine blade of the forceps snapped off close to the joint and disappeared. The patient immediately became black in the face, there was great dyspnoea, and she appeared to be dying; it was evident that the fragment had entered the larynx. Prompt efforts were made to obtain the expulsion of the foreign body, but without success. The alarming

symptoms, however, gradually passed off, and during the next five or six weeks the patient's condition gave no great cause for anxiety, though she suffered from pain on the right of the sternum, constant spasmodic cough with bloody expectoration, and was evidently losing strength. At last, seven weeks after the accident, she was sent up to London and admitted into St. Thomas' Hospital. The results of auscultation pointed to the presence of the foreign body in the right bronchus, and its removal by operation was decided on. Chloroform having been administered, Sir



William MacCormac exposed the trachea, divided the isthmus of the thyroid body, and then made an opening an inch and a half long into the windpipe. On passing in a probe the steel fragment could be distinctly felt impacted in the right bronchus at a distance of about five inches from the opening, and about an inch beyond the bifurcation of the trachea. Forceps were then introduced and, after a great deal of difficulty, the fragment was at length seized and extracted. The patient had some slight local broncho-pneumonia, but was convalescent at the end of a week, and ultimately made an excellent recovery. The fragment was fully an inch in length. Sir William added that most certainly no

blame could be imputed to Mr. Sanders ; the forceps bore the name of Evrard and there were no external indications of any flaw.*

The PRESIDENT remarked that the case was of great interest and importance to all dental practitioners, since such an accident might happen to any one. A dentist could not do more than provide himself with instruments made by a maker of known reputation. He congratulated Sir William on the success of the operation. He knew of a case at Plymouth, in which a tooth fell into the windpipe and was not recovered, the patient ultimately dying of phthisis.

Mr. F. S. Eve, F.R.C.S., Pathological Curator of the Museum of the Royal College of Surgeons, then read the paper of the evening on "Some points in the Pathology of Cystic and Encysted solid Tumours of the Jaws, with observations on the structure of the Enamel-organ." After briefly noticing the clinical characters of multilocular cystic tumours of the jaws, Mr. Eve referred to a lecture which he had delivered at the Royal College of Surgeons in 1882, in which he had shown that these tumours probably originated in epithelial ingrowths invading the bone in the vicinity of teeth. This conclusion had recently received some confirmation from the observation by Malassez, that epithelial remains, probably of the enamel organ, existed normally in the peri-odontal membrane. These tumours were a modified form of epithelioma, and were decidedly, though not in a high degree, malignant. The cyst formation resulted from colloid degeneration and vacuolation of the epithelium, and the remains of cell-walls together with undissolved threads of protoplasm produced the appearance of a reticulum in the central cells of the columns and alveoli of which the tumour was composed ; these in many instances were bounded by a layer of columnar cells. These peculiarities gave the tumours a resemblance to the rudimentary enamel organ, on the type of which they were formed.

Two views might be held regarding the mode of formation of the reticulum in the middle layer of cells of the normal enamel organ. The one generally entertained was that the cells were compressed by the collection of fluid between them. The other, which Mr. Eve believed to be the correct explanation, was that the proto-

* We believe that this case is unique as far as the fortunate result which attended Sir W. MacCormac's skilful operation.—ED. J. B. D. A.

plasm of the cells underwent degeneration and solution. The latter was certainly true of these cystic tumours, and he had also observed "signet-ring" cells and other evidences of degeneration and vacuolation of cells in the normal enamel organ.

Mr. Eve then went on to describe some cases of solid tumours of the jaw, which were surrounded by a bony capsule, and might clinically simulate cysts. The first was a case of encysted solid tumour of the lower jaw in a man aged twenty-four. It had existed four years, but had not increased in size for three years. It was composed of small compressed or angular epithelium with, in places, large columnar enamel-like cells and scattered bands of dentine-like structure. No return had taken place two years after its enucleation. Case 2 was a museum specimen of malignant tumour removed by Mr. Heath from the lower jaw of a man aged thirty-two. It was composed of sarcoma-like tissue, containing masses and columns of epithelium. It was not encapsuled, and was only alluded to as presenting in its minute structure some relation to the preceding.

Case 3 was an encapsuled fibro-sarcoma of the lower jaw in a boy aged fifteen. A mass of bone surmounted by a nodule of enamel projected from above into the cavity containing the tumour. Vertically placed elongated cells, resembling odontoblasts, were found on parts of the surface of the tumour. A similar case was recorded by Duplay, in which the crown of a tooth occupied the bony capsule enclosing a fibrous tumour of the lower jaw.

It was convenient to place these tumours in a separate class corresponding to the *Odontomes embryoplastiques* of Broca, but their origin in all cases from the rudiments of aborted teeth was open to doubt. In conclusion, Mr. Eve made some remarks on the relations of the different varieties of *Odontomata*. It appeared to him that Broca's group was not really a homogeneous one, but included types of various pathological formations, the *odontomes coronaires* and *radiculaires* being simply forms of hypertrophy, whilst the *odontomes embryoplastiques* and *odontoplastiques* must be regarded as true tumours.

Mr. CHARLES TOMES pointed out that Mr. Eve's explanation of the mode of formation of the multilocular tumours by a retrograde change in a rudimentary enamel organ, derived strong confirmation from an observation of the growth of the snake's poison-fang. The canal of this tooth first appeared as a groove on the surface

which became deeper, the edges ultimately meeting and closing over it. Part of the enamel organ was enclosed at the same time; and this underwent a process of colloid degeneration precisely similar to that which had been described by Mr. Eve as taking place pathologically under other circumstances. At a later stage this degenerated tissue disappeared and left the canal empty.

The PRESIDENT thanked Mr. Eve for his very interesting and suggestive paper, which he hoped would lead to further investigations, and the Society then adjourned.

REVIEWS AND NOTICES OF BOOKS.

NOTES ON ANÆSTHETICS, by ARTHUR S. UNDERWOOD, M.R.C.S. and L.D.S.Eng., Lecturer on Dental Anatomy and Physiology and Assistant Dental Surgeon at the London Dental Hospital, &c.; C. Ash & Sons, London, 1885: pp. 116, fcap. 8vo.

It is so constantly asserted of every novelty that it "meets an admitted want," that one is loath to use so hackneyed a phrase. Yet in this instance it is fairly applicable. Some may be inclined to think that the proper method of administering anæsthetics is one of those things which can be learnt only by actual practice and not from books, and to some extent this is true. But all students cannot hope to become proficient by practice alone; and whilst mere book knowledge without practical experience is of little value, a certain amount of knowledge may be acquired, either from books or from verbal instruction, which will render the student more ready to profit by such opportunities of practical administration as may fall in his way. And it may confidently be asserted that had former generations of students been able to avail themselves of such "notes" as these, the risks run by patients would have been greatly diminished, and operators would often have been saved much inconvenience and not a little anxiety.

Of standard works on Anæsthetics there is no lack, but, with the exception of the one before us, we know of none which could be recommended to the already over-burdened student of the present day. Mr. Underwood's "Notes" are brief, but clearly written, eminently practical, thoroughly trustworthy, and in every way well suited for their purpose, viz., the instruction of the average student. Having thus stated unconditionally that the book has our hearty

commendation, we may be permitted to make one or two suggestions in view of a second edition.

In the first place as to the arrangement. We have first a short history of Anæsthetics; next some "General considerations common to all Anæsthetics"; then chapters on Nitrous Oxide Gas, Ether, and Chloroform, and lastly one on "The Physiology of Anæsthesia." Now it appears to us that this last chapter ought to follow the "short history," since many of the facts insisted upon in the subsequent chapters cannot be properly understood without a knowledge of their physiological basis. Moreover half of the second chapter is already taken up with this very subject, the facts there set forth being repeated in Chapter VII. Chapter IV., on Professor Bert's experiments with nitrous oxide, might be relegated to the Appendix, and, in passing, we may point out that the account of his experiments with chloroform given at pp. 46-50, would gain in clearness by condensation.

Then we think the author is wrong in omitting all mention of "the less known anæsthetics." Some, at least, should be mentioned, if only to warn the student, who, be it remembered, will soon be a practitioner, against them. The omission of all mention of methylene bichloride is especially to be regretted, since this is an agent which has been extensively used for dental operations, and has still some ardent champions. Indeed, in a small work somewhat resembling the present, published only two years ago, we find it stated that "bichloride of methylene appears to combine the anæsthetic powers of ether and chloroform without their danger."

The chapters on the three agents which Mr. Underwood considers worthy of notice are excellent in their way; but though we fully agree with him in his defence of chloroform against its rabid detractors, we think he is disposed to exaggerate the inconveniences of ether. Mr. Underwood states in his preface that his book "contains no statement without authority," and we believe most of his readers would be quite content with this without having each fact personally vouched for. When, for instance, we find Mr. Bird dragged in as authority for the statement that "after eight or nine good inspirations" (of gas) "a sufficient stage of insensibility is reached to commence the exhibition of ether," this reverence for authority verges on the absurd. Besides, the condition of the patient is always a better guide than the number of inspirations. A list of the principal standard works on Anæs

thetics would, we think, be a very desirable addition. And, lastly, as the book is likely to be quite as useful to the medical as to the dental student, it need not be so obtrusively addressed to the latter. We commend it to the notice of both.

DENTAL BIBLIOGRAPHY, from 1536 to 1885. Compiled by
C. GEORGE CROWLEY. S. S. White & Co., Philadelphia.

WE have received with the above publication a communication in print that we presume is to be taken as a sort of "letter commendatory," extolling the value of the work and the self-sacrificing spirit of its compiler. It is initialed "J. H. S.," and is, we suppose, an extract from some review that has already appeared in the United States, or the opinion of some expert friend who has had the rare good fortune to see an early copy of Mr. Crowley's book. We are quite ready to endorse the conclusions of "J. H. S.," though it is within the bounds of reasonable expectation that we might have been able to arrive at an opinion on the subject, without the aid of "J. H. S." critical acumen. The Bibliograph is wonderfully well printed and bound, and in the main the references are accurate; but it is unfortunate that a slight error appears in the very preface itself where it is solemnly stated that "Mr. Oakley Coles read an address on Dental Literature before the Odontological Society of Great Britain, in 1882, supplemented by a list of dental books, journals, transactions, &c., and published in the Transactions of the Society." Mr. Coles did not do anything of the sort. The paper was read at Liverpool before the British Dental Association, and was published with the list referred to in the Transactions of that Association. A *reprint* of the list was issued to the members of the Odontological Society, but no paper on the subject ever appeared in the Transactions of that Society. The matter is of no great moment, except as an indication of care or the want of it in preparing references that may not be so easily tested as to accuracy and precision of statement.

It is a little confusing to find under the different sections a book that has been translated into various tongues or republished in America. It increases the number of publications, but gives a somewhat false impression of individual and national activity. Republications and translations might advantageously be given

separately in a future edition of the Bibliograph. There can be no question, however, as to the general utility of Mr. Crowley's work, and we give him our hearty thanks for carrying on an enterprise that is full of labour and usefulness. It is scarcely wise, nevertheless, even if it be logical, to conclude a recital of those who have gone before by asserting that "the present work" is "the pioneer in this field." We are very pleased, of course, that both the book and Mr. Crowley should be regarded as pioneers, if that is to be the name of the latest contribution or contributor to any field of literature, but we should like to have a glossary of terms added to the next edition, or an authoritative statement as to how late in the world's history "pioneers" may be expected to appear.

DIAGNOSTIK DER ZAHNKRANKHEITEN und der durch Zahnleiden bedingten Kiefererkrankungen, &c., von Dr. JOSEPH ARKOVY, Docent d. Zahnheilkunde, a.d. Universität in Budapest. FERDINAND ENKE, Stuttgart, 1885, pp. 400, large 8vo.

[On the Diagnosis of Diseases of the Teeth and of Diseases of the Jaws caused by dental lesions, with an appendix on the differential diagnosis of tooth, eye, and ear diseases, by Dr. Joseph Arkovy, Professor of Dental Surgery in the University of Budapest.]

WE have already noticed the appearance of this book in our October issue. It remains to give our readers a slight sketch of its general scope. The work has been the offspring of patient study on the part of the author, study undertaken at first in connection with his professorship at Budapest. Dr. Arkovy found, as many teachers have done before him, that there was no existing work that thoroughly discussed the subject of diagnosis from the standpoint from which he taught it. To teach thoroughly, it is necessary to observe carefully, and to chronicle and classify the results of observation. Dr. Arkovy undertook the duties of teaching thoroughly and conscientiously, and the mass of notes which naturally resulted, were, for the sake of his pupils and pupils in general, at last arranged in the form of a book. This being the history of its compilation, we are not surprised to find a large amount of original matter scattered through its pages. The book is a compendious array of clinical facts, marshalled under headings and sub-headings, with a love of classification

that indicates the author's nationality not less than his proclivities for teaching. It is a book of reference, and as such will take its place among the recognised literature of the Dental profession. In the chapters dealing with the ear and the eye, the author has obtained the assistance of Professor Böcke and Dr. Creniceanu respectively—both distinguished specialists.

The work is arranged in five chapters.

Chapter I. is devoted to the discussion of the diagnosis of diseases of the hard substances of the teeth, including caries, sensitive dentine, and exostosis.

Chapter II. deals with the diagnosis of pulp diseases, acute and chronic, these headings being further sub-divided into acute, septic or superficial pulpitis, acute pulpitis, partial and complete, and lastly acute purulent, and acute traumatic pulpitis.

Chronic pulpitis is divided into parenchymatous and purulent. Chronic hypertrophic granulomatous and sarcomatous pulpitis; chronic-gangrenous pulpitis, and total gangrene of the pulp. Thus is everything divided and subdivided, even atrophy of the pulp is simple, sclerotic and reticular.

Chapter III. discusses the diagnosis of affections of the periosteum, and the methods of research adopted by the author are clearly and fully described. The first part of the chapter considers acute, the second chronic, diseases, whilst the third part handles the subject of affections of the maxilla itself which may owe their origin to the periosteum. The degrees and varieties of inflammation, and the exact situations give occasion for classification of a most elaborate kind. This chapter as a whole is very satisfactory and complete. In the fourth chapter the milk dentition is discussed, while the fifth is the work of the specialists above alluded to, and is devoted to the ear and the eye in their relationship to dental pathology.

To each chapter is appended a bibliography, which excellent practice should be adopted by all who write scientific books; the value of the book is considerably enhanced thereby, while the testimony it gives to the author's wide reading increases our respect for his statements. We heartily congratulate Dr. Arkovy on his valuable contribution to our libraries, and we may perhaps hope that in a second edition certain hardnesses of style may disappear, which though of slight importance to the native German, are a little troublesome to the foreign reader.

A SYLLABUS OF LECTURES ON ODONTOLOGY, HUMAN AND COMPARATIVE, for the use of the students of Michigan University, by Professor C. L. FORD, M.D., D.D.S.

THIS little book is certainly a novelty in dental literature, but unlike a good many novelties it is a capital innovation and will prove very useful to those for whom it is written, namely students.

It consists of a series of statements, generalisations and observations upon Dental Anatomy and Physiology, each occupying a single line. These lines are written in the condensed form of a lecturer's notes, and in the forty-four pages which comprise the volume, a considerable amount of ground is gone over. The book is interleaved throughout, so that the possessor may make free notes on the blank pages—this is a capital idea for a text-book, and adds considerably to its usefulness.

It is a pity that the author should not have thought it worth while to be a little more careful of the wording. Notes that may easily serve a lecturer's purpose may, notwithstanding, prove somewhat confusing to the student from their very baldness, if transcribed directly into a text-book without revision,—for instance :—

“ No animal has a set in a continuous row.
 Man only has a set of teeth so arranged.
 Man only has teeth with uniform length of crown.”

These three statements without explanatory context, are not very clear and not very correct. Neither are the few lines which immediately follow them :—

“ Some animals have an extreme modification.
 The Elephant has an enormous tooth called tusk.
 The Mastodon has upper and lower incisors.
 The Dinotherium develops lower incisors.
 The Narwhal develops one straight upper tooth.”

From this it might be inferred that the peculiarity in the case of the Elephant was that the tooth was *enormous*, and called a “tusk,” in the Narwhal that its upper tooth was *straight*, in the Mastodon that it had *upper and lower incisors*, while the Dinotherium had only *lower ones*, and lastly, that the Dinotherium and Narwhal were peculiar in *developing* their teeth, whereas the others obtained them some other way. Now, when we consider that the elephant has *smaller* tusks than any of the others, that the narwhal's tooth is *spiral*, whereas straight upper incisors are

quite common in the animal creation, we can see that though a lecturer might know what he himself meant by such notes, a student could easily be misled by them.

There are many similar instances throughout the little work that show that it has been thrown off in a hurry without much consideration of the proof sheets, but these are trivial blemishes which a second edition will see rectified. The idea of such a note book or hand book is excellent, and the student world will, we hope, be duly grateful to the author.

MINOR NOTICES AND CRITICAL ABSTRACTS.

The International Medical Congress of 1887.

THE preliminary notice to the medical profession of the International Medical Congress, to be held at Washington in September, 1887, has just been issued. It contains a list of Sections, the seventeenth and last of which, with Dr. Taft as President, is for the discussion of Dental and Oral Surgery. At the same time we find in the American dental journals, a report of a meeting held at Buffalo, New York, on November, 6th, and attended by twenty well-known American dental practitioners, at which it was decided that it was inexpedient to recommend the organization of a section of Dental and Oral Surgery at the International Medical Congress of 1887, *under present circumstances*.

In the course of last year, we referred several times to the preparations which had been commenced in the United States, for the holding of this Congress, and to the unfortunate difficulties which have arisen in connection with them, but some of our readers may perhaps be glad to have a connected account of the origin of these troubles, and of the progress of affairs up to the present time.

It will be remembered that at the last Congress, which was held at Copenhagen in 1884, a deputation from the American Medical Association, invited the Congress to hold its next meeting in the United States, whilst another invitation was received from the medical profession of Germany, suggesting Berlin as the place of meeting. As it seemed doubtful whether Berlin would be an acceptable meeting place for the French members of the Congress, the invitation to meet at Washington was accepted, and the

claims of Berlin postponed for the time. On their return home, the American Committee proceeded, according to the usual course, to invite the co-operation of the prominent men of all departments of the profession, without any regard to whether they belonged to the American Medical or any other Association, and with highly satisfactory results. No Dental section was at first proposed, there had been none at Copenhagen, but on remonstrance being made, a Section was established with the list of officers given at p. 250 of our last volume.

But at the annual meeting of the American Medical Association, held at New Orleans in the spring of last year, that body claimed the right to review the action of the committee, which, although it had originally derived its powers from the Association, had now become the Committee of the Congress. The selections made by the Committee were objected to, and the committee itself virtually superseded by fresh nominations, the Association claiming to have the entire direction of the Congress, and to exclude all members of the profession who were not within its membership. This was to introduce a precedent which could not be tolerated for a moment. The International Congress meets for the advancement of medical science, and not to increase the membership, or add to the prestige of any particular society. Our British Medical Association is a far less exclusive, and consequently much more representative body than its American homologue, but it never attempted to assume the direction of the London Congress of 1881. The consequence of this ill-judged action was the resignation, with one or two exceptions, of every practitioner of first-class standing, whose name had been mentioned in connection with the approaching Congress. Strong efforts were made to induce some of the most prominent of the retiring members to return, but without success; the whole of the Sections had therefore to be re-organized, the new executives being in lamentable contrast to their predecessors.

One of the first acts of the usurpers had been to abolish the section of Dental and Oral Surgery, but later, realizing apparently that they must bid for all the help they could get, the new committee proposed to re-establish it; but it was now too late. The members of the dental profession in the United States were as disgusted with the pretensions of the Medical Association as were their medical confrères, and they have decided to make common cause with the latter and not to take part unless the organization of the Congress

be placed on a satisfactory basis. We may add that the heads of the medical profession in Europe are equally opposed to the course pursued by the American Medical Association. In this country Sir James Paget and Sir William MacCormac have not hesitated to give very decided opinions in opposition to the claims of the American Association, and most of the prominent men of France and Germany have intimated their intention of taking no part in the approaching Congress unless these claims are abandoned, or, at the least, unless a settlement be arrived at between the contending parties. Of this there seems to be little prospect, and so far as can be judged at present, the meeting of the International Medical Congress at Washington seems foredoomed to be a miserable failure, though this may yet be in part retrieved by prompt concessions.

We notice that at the Annual General Meeting of the American Dental Association in August last, a proposal was made that an International Congress of Dentists should be organised in connection with the next meeting of the Association, and a committee was appointed to consider the project. We cannot help thinking that such a proposal at the present juncture was somewhat unfortunate, as likely to afford to the enemies of our profession an opportunity for misrepresentation and obscuring the points at issue. It may be that the American dentists are more concerned for the credit of their own Branch than for the honour of the medical profession generally, but we consider that their true interest lies in helping their medical brethren to establish a satisfactory Congress organization, if this can by any means be effected. Only when it is seen that all efforts to this end are hopeless, should an alternative scheme be considered. An International Dental Congress may be in store for us in the future, though we doubt whether the United States would be the best place in which to try the first experiment, but for the present let us be content with a creditable section, and direct our influence and our energies with this view.

RULES.

1. The Congress shall consist of members of the regular profession of medicine, who shall have inscribed their names on the register, and shall have taken out their tickets of admission; and of such other scientific men as the Executive Committee of the Congress may see fit to admit.

2. The dues for members of the Congress shall be ten dollars each for members residing in the United States.

There shall be no dues for members residing in foreign countries.

Each member of the Congress shall be entitled to receive a copy of the "Transactions" for 1887.

3. The Congress shall be divided as follows, into seventeen Sections :

- I. General Medicine.
- II. General Surgery.
- III. Military and Naval Surgery.
- IV. Obstetrics.
- V. Gynæcology.
- VI. Therapeutics and Materia Medica.
- VII. Anatomy.
- VIII. Physiology.
- IX. Pathology.
- X. Diseases of Children.
- XI. Ophthalmology.
- XII. Otology and Laryngology.
- XIII. Dermatology and Syphilis.
- XIV. Public and International Hygiene.
- XV. Collective Investigation, Nomenclature, Vital Statistics, and Climatology.
- XVI. Psychological Medicine and Diseases of the Nervous System.
- XVII. Dental and Oral Surgery.

4. The General Meetings of the Congress shall be for the transaction of business, and for addresses and communications of general scientific interest.

5. Questions and topics that have been agreed upon for discussion in the Sections shall be introduced by members previously designated by the titular officers of each Section. Members who shall have been appointed to open discussions shall present in advance statements of the conclusions which they have formed as a basis for debate.

6. Brief abstracts of papers to be read in the Sections shall be sent to the Secretaries of the proper Sections on or before April 30th, 1887. These abstracts shall be treated as confidential communications, and shall not be published before the meeting of the Congress.

Papers relating to topics not included in the lists of subjects proposed by the officers of the Sections may be accepted after April 30th, 1887 ; and any member wishing to introduce a topic not on the regular lists of subjects for discussion, shall give notice of the same to the Secretary-General at least twenty-one days before the opening of the Congress, and such notices shall be promptly transmitted by the Secretary-General to the Presidents of the proper Sections. The titular officers of each Section shall decide as to the acceptance of such proposed communications, and the time for their presentation.

7. All formal addresses, scientific communications and papers presented, and scientific discussions held at the General Meeting of the Congress, shall be promptly given in writing to the Secretary-General ; and all papers presented and discussions held at the meetings of the Sections shall be promptly given in writing to the Secretaries of the proper Sections.

No communication shall be received which has already been published or read before a society.

The Executive Committee, after the final adjournment of the Congress, shall direct the editing and the publication of its "Transactions," and shall have full power to publish the papers presented and the discussions held thereon, either in full, in part, or in abstract, as in the judgment of the Committee may be deemed best.

8. The official languages of the Congress shall be English, French and German.

In the meetings of the Sections, no member shall be allowed to speak for more than ten minutes, with the exceptions of the readers of papers and those who introduce subjects for discussion, who may each occupy twenty minutes.

9. The rules and programmes shall be published in English, French and German.

Each paper and address shall be printed in the "Transactions" in the language in which it was presented, and preliminary abstracts of papers and addresses also shall be printed, each in the language in which it is to be delivered.

All discussions shall be printed in English.

10. The President of the Congress, the Secretary-General, the Treasurer, the Chairman of the Finance Committee, and the Presidents of the Sections, shall together constitute an Executive Committee of the Congress, which Committee shall direct the

business of the Congress, shall authorize all expenditures for the immediate purposes of the Congress, shall supervise and audit the accounts of the Treasurer, and shall fill all vacancies in the offices of the Congress and of the Sections. This Committee shall have power to add to its membership, but the total number of members shall not exceed thirty. A number equal to one-third of the members of the Committee shall constitute a quorum for the transaction of business.

11. The officers of the Congress shall be a President, Vice-Presidents, a Secretary-General, four Associate Secretaries, one of whom shall be the French Secretary, and one of whom shall be the German Secretary, a Treasurer, and the Chairman of the Finance Committee.

12. The officers of each Section shall be a President, Vice-Presidents, Secretaries, and a Council.

13. The officers of the Congress and the officers of the Sections shall be nominated to the Congress at the opening of its first session.

14. The Executive Committee shall, at some convenient time before the meeting of the Congress, prepare a list of foreign Vice-Presidents of the Congress and foreign Vice-Presidents of the Sections, to be nominated to the Congress at the opening of its first session.

15. There shall be a Standing Committee on Finance composed of one representative from each State and Territory, the District of Columbia, the Medical Department of the Army, the Medical Department of the Navy, and the Marine Hospital Service.

The Chairman of the Finance Committee shall report to the Executive Committee of the Congress.

Each member of the Finance Committee shall appoint a local Finance Committee for his State, Territory, District, or Government Department, consisting of one or more members from each Government Department or Congressional District.

Each local Finance Committee shall report through its Chairman to the Chairman of the Finance Committee of the Congress.

The Presidents, Vice-Presidents, Secretaries, and members of Council for each Section will be given in the full programme, to be published at a later period in the progress of the work.

The Executive Committee cordially invites members of the medical profession and men eminent in the Sciences collateral to

medicine, in all countries, to participate in the International Medical Congress of 1887.

Communications and questions relating to the business of the Congress should be addressed to Dr. N. S. Davis, Secretary-General, 65, Randolph Street, Chicago, Illinois.

Dr. W. H. Atkinson on the Relations of General to Special Practice.*

THE work of the staff of a dental journal would be very much duller and more uninteresting but for the existence of Dr. W. H. Atkinson; we allow that his style of writing is an acquired taste, but once acquired it grows upon the reader and we ourselves confess to a glow of gratification when we recognise his name at the head of an article. The prospective feast of new expressions, new word puzzles and new spelling, is always to be looked for with confidence, but perhaps the peculiarity that endears this author most to an English reader is his peculiar facility for introducing Biblical parallels and illustrations to adorn his dental writings. It is a kind of thing we never get over here in England, perhaps we are more reserved, but there is no doubt that an English writer on dental surgery would be suspected of profanity if he were to bewail the ignorance and obstinacy of the profession in not accepting his doctrine in language quoted from the sacred Author of Christianity. The innocent sincerity with which this writer believes in the parallel between his own disappointments in dental matters and the history of the Gospels, could not exist in the old country.

"So very many cases of consulting as authority books, practitioners and professors, that resulted in failure to get at diagnosis have occurred to me through an extended series of years, that I have been led—with the prophet of old—to exclaim 'How long! How long, Oh! dear Lord shall these things endure, and find no answer! adequate to our need?'" Very few English dentists would have exclaimed thus under these distressing circumstances; in fact we suspect that not every prophet of old would have added that reproachful "and find no answer"; and as to the funny little terminal question "adequate to our need?" which so plaintively

* Read before the Connecticut Valley Dental Society, November 6th, 1885.

and confusingly obscures the sense and takes away most of the irreverence and all of the meaning of the prayer, the only prophet or dentist who ever would have said it is the doctor himself.

Having got us fairly serious with a little lecture on reverence for authority, he tells us that authority must produce its title deeds, it must "hold the truth in righteousness," and then without a word of warning, just as our thoughts have unaccountably wandered to the Salvation Army, the next sentence is all about a child whose inferior canines were dislocated! The local doctor bungled the case for seven years, during which time a running sore was carefully preserved in the chin! no one seemed to mind much till the child began to approach womanhood, when the mother got tired of it and asked the local M.D. whether it would take very long to finish the case. He said he would "think it over and inform her;" he had evidently postponed the unpleasant and unusual process of thinking as long as possible, and now being forced to it by the impatient mother, he tried for three weeks, and finally gave it up and sent her to a professor of surgery, who referred her again to a dentist; two or three dentists discuss the matter, and finally the young lady was brought to the centre of dental wisdom, Dr. Atkinson himself. No more hesitation or wandering, the doctor boldly says to the sufferer "we will decide how to save the teeth and the appearance of the face of your daughter." How this certainty must have relieved the patients after their previous experience of the healing art! There is no doubt as to the result, the doctor is not going to *try* to save them, he is going to *decide how to do it*. Next Tuesday, after burring out the dead bone he will pack the cavity with a sterilised sponge! All's well that ends well, they waited seven years but not in vain.

Dr. Atkinson does all this no doubt by "the gift of superior insight into the occultness of the molecular convergences and divergences which underlie health and disease," for this we find is the difference between "the inspirational (?) genius and the dull plodding of the so-called scientist. He who gives himself credit for having mastered the whole range of the field of medicine is apt to claim a depth of knowledge which he cannot display on the instant in a given case." We do not hesitate to add that a person who gave himself credit for such an impossible degree of learning, would be a self-conceited buffoon who probably knew very little indeed of anything.

One paragraph is so good and true that we must quote it at length :—

No one can be a safe specialist without the general knowledge in anatomy, physiology, pathology, and therapeutics. Neither can any one be a safe general practitioner who has lightly run over any region of the human body. In the light of this last statement then, is it not plain that no M.D. who has not also attained the knowledge indicated by the D.D.S., can by possibility be entitled to decide cases belonging to dentistry? An examination of the text-books and prescribed courses of study in medical colleges will reveal the fact of the meagre attention called to the embryology, histology, nourishments, derangements and treatment of the teeth, which must lead to the conclusion that competency to understand the management of the teeth in health and departures therefrom, is by such instructions impossible. Nevertheless nearly every dental enactment for the safety of the people against incompetent dentistry has tacitly or openly acknowledged that graduation as physician, or rather as M.D., entitled the holder of such degree to practice dentistry. A most puerile enactment and flagrant abuse of legislative power, and this, too, endorsed by the very men who favoured the enactment of such a code of regulating and legitimizing the practice. Yes! dentists in good practice are and have been guilty of such folly, and have the cheek to wipe their lips and say, "we have not sinned."

We used to wish the doctor would always write good, sensible, understandable matter like this, and even now we like a little of it, but we don't revel in it as we do when his mystic and prophetic mood is on; under any circumstances we are always sorry to open an American journal and to miss the name of Dr. Atkinson from the list of contributors to its pages.

The Hypodermic Use of Cocaine.

At a meeting of the Medical Society, District of Columbia, November 11th, 1885, Dr. J. Ford Thompson read a note on this subject, which is so directly confirmatory of Mr. Hunt's paper, which we publish this month, that we cannot refrain from quoting from it :—

"He said that his early experience with cocaine had not given satisfactory results. The reason for this, however, was not to be found in the drug, but in the mode of using it. He believed that it cannot be relied upon when merely applied externally to mucous

surfaces, skin, or other tissues. It seems to have its greatest power when applied to the eye and the respiratory tract. In other localities it has often failed him. He had used it on the male and female urethra prior to an operation, and there was no anæsthetic effect. He then began to use cocaine hypodermically (four per cent. solution), and was well pleased with his results. When it failed, he believed it was his fault in not waiting long enough for the action of the drug. He had used it successfully in operating upon internal and external hæmorrhoids, in opening abscesses, in operations upon the upper jaw, in circumcisions, in removing splinters and toenails, in lancing a bone felon, in removing a tumour from the neck, and a fatty tumour from the scalp, in restoring the perineum, in aspirating an abdominal tumour in a child, in external urethrotomy, and in many other cases.

"On November 9th, however, he unsuccessfully injected it before using the actual cautery. He attributed the failure, though, to his not waiting long enough for the action of the drug. A few moments later, the patient complained of numbness in the part showing, as the doctor thought, that the action of the cocaine was obtained, and if he had waited the patient would not have suffered from the application of the cautery. He had used all the other local anæsthetics, such as rhigoline, ether-spray, ice and salt, but he considered cocaine better than all others. He thought it fortunate that we were in the possession of such a valuable local anæsthetic, as he believed there were many cases in which the causation of general anæsthesia was of doubtful propriety. He had seen two cases in the past few months where the death of the patient was at least indirectly hastened by the administration of ether, or at any rate the anæsthetic added to the already existing dangerous condition.

"In reply to a question by Dr. King, he said he had noticed a soporific influence of the cocaine upon one patient, and Dr. McArdle had told him of an infant's having been twice put to sleep by dropping it into the eye.

"Dr. KING thought it would be a good idea to place a ring upon the surface to be cut or punctured, and pour the cocaine into the space thus circumscribed. An incision then being made, the cocaine would be absorbed, and the incision could be continued until the required depth was reached. In using it hypodermically he thought the exposed part might escape the anæ-

thetic effect. Moreover, this method might be tried if the doctor had forgotten his hypodermic syringe."

UNDER the heading of a "Painful Death in Sunderland," in the *Times* of Saturday, January 2nd, 1886, an unfortunate accident is recorded which cannot fail to be of interest to our readers. A Miss Turnerelly,—

Who was advanced in years, had been obliged for some time to wear three artificial teeth. Early one morning, about a week ago, by some strange mischance, she swallowed them during her sleep, for when the servant surprised at not finding her mistress astir at her usual hour, went to call her about 9 o'clock, she was horrified to find Miss Turnerelly struggling and choking in bed. This must have gone on for some hours, as was subsequently proved by the terribly lacerated condition of the interior of Miss Turnerelly's throat. Medical assistance was at once called in, and Drs. Morgan and Horan succeeded, though with great difficulty, in extracting the teeth. Miss Turnerelly had, however, sustained a fatal shock from the accident, and after lingering for a week succumbed to her injuries the night before last.

There is no doubt whatever that small plates are attended with a danger to which large ones are not liable, namely, that of being swallowed. It is always possible to discountenance the practice of wearing artificial teeth at night, but it must be remembered that the habit of so wearing plates is a great help in rendering the patient accustomed to the denture. Obviously the unfortunate lady died from shock, and the question of the advisability of small artificial dentures is more or less brought home to us by these accidents.

The Cocaine Habit.

DR. A. P. MEYLERT, of New York, writes: "Articles on the subject of cocaine hydrochlorate are occasionally published, in which it is assumed that there is no danger of the formation of a cocaine habit. This is an error. Physicians should know that cocaine must be prescribed with considerable caution where its administration is left at the patient's discretion. I have already had one case of cocaine habituation, complicating the morphine habit."—*Medical Record*.

Cutting of Teeth in Advanced Age.

IN a common-place book, written by a Thomas Rawlins, of Pophills, between the years 1724 and 1754, occur the following entries: "There lives in Mill Street, in Belfast, in Ireland, 1731, one Jane Hooks, of one hundred and twelve years of age, who has her memory and appetite as well as when she was but twenty years old, and has got a new set of teeth, which has drove out all ye old stumps." "Robert Lyon, of ye City of Glasgow, aged one hundred and nine years, who was in the service of King Charles I., and who has got a new set of teeth, and recovered his sight in a wonderful manner." "Mrs. Page, at ye Royal Oak in Barnaby Street, Southwark, aged ninety years and upwards, has lately bred six great teeth in ye upper jaw, in June, 1732, which is an extraordinary and preternatural instance: had not a tooth in her head these twenty years past." "Margaret White, of Kirkaldy, in Scotland, aged eighty-seven, who had been toothless for many years, has just got eight new and fresh teeth, April, 1732."

Section Cutting.

THE following extract from a *Belfast Contemporary* will no doubt prove of interest to our microscopical readers:—

"Dr. S. M. Malcomson gave a demonstration on cutting, staining, and mounting sections of animal and vegetable tissues. The following is the process applied to the first specimen taken up:—Having selected a piece of the kidney of a sheep, the blood vessels of which had previously been filled with coloured gelatine to show their distribution, he placed it in gum mucilage on the freezing plate of a Cathcart's microtome, the Ether spray of which being then brought into action, the whole was completely frozen in a few minutes, and was then easily cut into excessively thin slices by means of a very sharp knife. These sections, after being floated in water, were immersed in a staining fluid, so as to differentiate the elements of the tissue, and, after being passed through alcohol and oil of cloves, were placed in a drop of Canada balsam on a glass slip, covered with a thin glass circle, and finished in the usual manner by running a ring of cement round the cover. He then went through a somewhat similar process with a vegetable structure.

"Mr. Andrew, L.D.S.Eng., demonstrated the preparing and mounting of hard substances, such as teeth, bones, and rocks. Taking a human tooth, he cut it into slices about one-sixteenth of an inch thick by means of a fine spring saw. These he further reduced by rubbing on a fine hone kept wet with plenty of water until they were sufficiently thin, examining them frequently by means of the microscope towards the end of the process to avoid grinding them too much. A piece of bone was treated in a similar manner. Thin chips of carboniferous limestone and some fossil teeth (*Psammodus porosus*) were used to illustrate the preparation of geological specimens. These were first ground flat on one side, and polished on a very fine hone. The flat surface was then cemented to a glass slip of gum shellac, after which the other side of the piece was rubbed down until the section became thin enough to show the structure. The slip with the section on it was then placed in alcohol, which dissolved the shellac and allowed the section to float off. They were then mounted in Canada balsam in the same way as the soft structures before described. The entire processes of both operators were closely watched by as many as could conveniently get within view, and the admirably finished slides testified to their ability and manipulative skill.

"Mr. Charles Bulla exhibited an extensive series of fossil teeth, principally from the Armagh limestone, and their structure was shown under the microscope by a magnificent set of sectional slices prepared by Mr. Andrew, in the manner above described."

NEW INVENTIONS.

A simple and effective Hot Air Syringe.

THE following suggestion is forwarded to us by Mr. George Pedley, of 17, Railway Approach, London Bridge:—"Turn up a brass ball about the size of a Solarium berry, drill a hole through the centre and hard solder about half an inch from the nozzle end of an ordinary chip syringe. A suitable temperature of blast is obtained by placing the ball in flame of a spirit lamp till it sizzles when wet; plunge it into water and instantly withdraw. Blow out the steam (which is drawn into the indiarubber ball by the partial vacuum created) and sufficient heat will be left to desiccate the surface of dentine, in any cavity, previously dried with amadou or

cotton wool. This will be evident by the whiteness and opaqueness it assumes.

"Wipe the cavity out with amadou or cotton moistened with Fletcher's copal and ether varnish, and again apply hot air. This leaves the cavity in good condition for all fillings, especially cohesive gold, as it prevents the first portions from rolling out of the plugger."

"It is important that the varnish shall be kept thin with chloroform or ether."

"The desirability of dry cavities is evident, but the value of the hot-air syringe is quite as great in allaying the sensitiveness of the dentine, and is obvious on a reapplication of hot air after using copal varnish."

Soft Rubber Pulleys for the Dental Engine.

BY WILLIAM HERBERT ROLLINS, of Boston.

DRIVING a dental engine by foot power is tiresome unless the dentist is strong. This is particularly true of the Bonwill engine on account of the number of pulleys and the fact that the belt must be quite tight to prevent slipping. On this account I have three times gone back to the White or Johnston engine. I find, however, that a soft rubber band or surface on the driving wheel and a solid grooved disc of soft rubber, screwed tight between two metal discs on the hand-piece, will diminish the amount of power required about one-half, because the belt can be run loose without slipping. I wrote to Dr. Bonwill about this a year ago, but as he did not answer my note and has not put the improvement on his engines, I think it worth while to call attention to the matter.—*New England Archives of Dentistry.*

OBITUARY NOTICE.

ON the 11th of November, Dr. John M. Riggs died after a brief illness. Dr. Riggs' name will long be remembered in association with pyorrhœa alveolaris, to the treatment of which he devoted special attention, and with so much success, that the disease is now very commonly spoken of as "Riggs' disease." Dr. Riggs was seventy-five years of age and had practised dentistry for over forty years in Hartford, and was one of the pioneers in the appli-

tion of anesthesia
Dr. Grace Wells in this
discovery of anes-
thetics
only of the surgical
tribute of respect is
an achievement.

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tion of anæsthesia to surgery, in fact, he was not far behind Dr. Horace Wells in this respect. To have been associated with the discovery of anæsthetics is a sufficient title to the gratitude not only of the surgical world, but of all suffering humanity, and a tribute of respect is due to the veteran who has contributed to such an achievement.

APPOINTMENTS.

DUDLEY W. BUXTON, Esq., M.D., B.S.Lond., M.R.C.P., M.R.C.S., and FREDERICK HEWITT, Esq., B.A., M.B., Cantab, M.R.C.S., have been appointed Assistant Anæsthetists to the Dental Hospital of London, Leicester Square.

F. H. GOFFE, Esq., L.D.S.Eng., and W. R. ROBERTS, Esq., L.D.S.Glas., have been appointed Assistant Surgeons to the Birmingham Dental Hospital. F. R. BATCHELOR, Esq., has resigned the post of Hon. Surgeon, and Dr. R. SAUNDBY has been elected Consulting Physician *vice* Sir JAMES SAWYER resigned.

ANNOTATIONS.

THE year upon which we have just entered is likely to be an interesting one to our profession. The annual general meeting of the British Dental Association is to be held in London, and those of our members who practise in the metropolis will look forward with eagerness to the opportunity that this event will afford them of repaying in kind the genial welcome and hospitality of which they have hitherto always been the recipients. Liverpool, Plymouth, Edinburgh, and Cambridge have all severally been the scenes of pleasant scientific and social gatherings. Each city has vied with its predecessors to make its meeting a success. In the early days of such a body as our Association we look for constant progress and improvement, so it will behove the Londoners to be upon their metal and try hard to "beat the record," if we may be allowed to use a sporting phrase.

WE need to entertain no fears for the result; we have not forgotten the International Medical Congress of 1881, and the festivities that mingled so agreeably with its scientific labours. The same veterans that were the leading spirits in Section XII. are

still able and willing to superintend both the work and the play of our London meeting in 1886—that Sir Edwin Saunders, who was president of our section in 1881, will not be behind-hand we may safely predict. The Association is five years older and five years wiser, and every consideration tempts us to prophesy a very brilliant success this autumn.

OUR contemporary the *Lancet*, has never been very happy when it has touched upon dental matters, and its sources of information upon such subjects seem little reliable, as was thoroughly exemplified by its attitude, during the movement which culminated in the passing of the Dentists Act, and is now again placed in evidence by an editorial which appeared on Dec. 19th. Although we do not share the *sæva indignatio* of our correspondent, a presumably young "Student of Dental Pathology," yet we think the paragraph hardly worthy of the place in which it appears, it is inconsequential, confused in idea, and inaccurate as to fact, in fact amateurish in the disparaging sense of the word.

THUS we are told that John Hunter wrote "all the diseases of the teeth, which are common to them with the other parts of the body, should be put under the management of the physician or surgeon; but those which are peculiar to the teeth, and their connections belong properly to the dentist." The *Lancet* adds:—"It follows from this, that decay of the teeth is a malady which ought to be regarded as falling within the province of the Medical practitioner." Why does it follow? Is caries of the teeth or even anything at all like it, met with elsewhere in the body? Again we are told that Hunter deduced (in or before 1778) "from the morbid anatomy of decay of the teeth, that it is not due to external or accidental causes, but that the evil comes from within." Did the writer stop to think what sort of microscope Hunter had at his disposal in or before 1778, when he speaks of his drawing deductions from the morbid anatomy of dental caries. Again we are told that "the young people of America are particularly subject to decay of the teeth, and the young people of America are conspicuous for their advanced mental culture and the protective care bestowed upon them." Here are three statements set forth as with authority, the first being, we believe, without any solid foundation of fact, for some at least of those who have had good opportunities of personal observation in America, and in this country, entertain the opinion that hopelessly bad teeth

in young people are much more frequently met with here than in the United States. But after all there are no bones broken; we would only venture to suggest to the *Lancet*, that when they are in the humour to have their say upon dental matters, it would be advisable for them to seek out a member of the dental branch of the profession, and there are many who would be only too proud to be associated thus with the *Lancet*, who would save them from falling into bathos.

THE recent controversy about rabies has brought to light many curious and interesting facts. A number of experienced veterinary surgeons have written upon the various features of the question and the general public have been greatly enlightened concerning hydrophobia. Among the shoals of letters that have appeared recently in the daily papers, there have been several of a special interest to our confraternity. We quote the following passage from a letter to *The Standard* as an instance :—

A favourite fox-terrier I still have was in agonies, and came constantly pressing his head into my hands. I examined him, and found three large teeth frightfully decayed, and the mouth fearfully swollen. I sent him at once to our veterinary surgeon, who got a fellow-practitioner to administer chloroform to the dog, and he extracted the three teeth. The mouth was carefully washed and the wound syringed with Condyl's fluid for some days, and the dog was apparently quite free from pain and well the following day. A retriever I had suffered in the same way, and was well for many years after he had three teeth out.

I am Sir, your obedient servant,

A DOG'S FRIEND.

Nottingham, December 25th.

THIS is only one of many such instances. Dogs are undoubtedly liable to toothache, and the paroxysms of pain into which they are thrown very closely simulate the symptoms of rabies. A dental surgeon who bears one of the most honoured names in our profession, Mr. George Parkinson, possesses a bull terrier, that on one occasion gave evidences of suffering that directed his owner's attention to his teeth; Mr. Parkinson discovered a cavity in the dog's upper canine tooth and immediately set about to relieve it. He carefully drilled out the decay with a dental engine, and actually filled the tooth with gold. The animal patiently submitted to the process and the result was in every

respect satisfactory. We think the case is probably unique and hope Mr. Parkinson will pardon us for quoting his name. It is not every practitioner whose ardour in his profession combined with his love for his pet, would embolden him to risk the dubious experiment of drilling out a painful tooth with a burring engine for a fierce dog.

WE learn that the Russian Government, has decided that in future no one shall be allowed to open a dentist's office, or in any way to practise dentistry, without having first gone through a regular curriculum and passed special examinations. Lectureships on dental surgery are to be established, and laboratories and operating rooms, fitted up at some of the universities. Before being allowed to commence his professional studies, the student must give evidence of six years' diligent attendance at a public school. Altogether the regulations appear to have been drawn up with care and judgment, but of course some little time must elapse before they can be brought into full operation. Russia will then be, in this respect, in advance of some other European nations, notably France, where the dental profession is still in a very unsatisfactory condition, though education is making fair progress.

WE are pleased to notice that the Lord Chancellor has among other names placed that of John Caldcleugh, Esq., I.L.D.S.Eng., upon the commission of the peace for the city of Durham. It is gratifying to all of us, when one of our confraternity receives such marks of respect and recognition, and we trust it will become less and less rare every day.

THE following curious accident is certainly worthy of record if only to illustrate the dangerous facility with which such unpleasant phenomena may be brought about. A lady about to undergo a dental operation was desired to open her mouth, she obeyed, but with more zeal than discretion opened it so thoroughly as to dislocate her jaw—another instance of doing things "not wisely but too well!"

MR. FISHER, of Dundee, has kindly enclosed us an interesting cutting from the *Dundee Advertiser* touching upon the subject which he has undertaken to champion "compulsory attention to

the teeth." The cutting is headed "Enrolment of firemen for the Naval Reserve," and contains the following statement: "It is expected that a considerable number will join here, but as yet very few have presented themselves, and several of these have been rejected by the medical examiner. *The condition of the teeth is now made an important part of the examination of candidates for the naval reserve, and many men in good health are rejected on account of the faulty condition or want of a number of their teeth.*" The italics are ours. The subject is of great importance and we shall do all that we can to enable Mr. Fisher to ventilate and secure for it the public attention it deserves. John Bull is slow to move, however, and those who would convince him of the error of his ways, must know how to live through a good deal of disappointment.

DURING the past year the world of science has experienced some serious losses. Dr. Carpenter has ended a long life of devotion to science, by an exceptionally painful and distressing death. Our readers are no doubt familiar with the facts of Dr. Carpenter's sad accident, but we cannot pass over the loss of such a distinguished physiologist without giving our small tribute to his many and valuable services to medical science—such men are ill-spared from the sphere of active work, but in this case the servant had done his duty well, and contributed more than his share to the knowledge we possess; his name will long be known and honoured wherever medical science is taught.

FRANCE has also lost an illustrious ornament of our profession. In October last, M. Robin died. The name of M. Robin is familiar to most of our profession, as the collaborateur of M. Magitot and of M. Legros in their researches into the development of teeth. M. Ch. Robin founded the *Journal de l'anatomie et de la Physiologie*, and was throughout his career a careful and exact man of science, and his loss will be honestly regretted by a great many of his English fellow-workers as much as by his compatriots.

WE are pleased to be able at last to give our readers some reliable information concerning the postponed dinner of the past and present students of the Dental Hospital of London. The reunion will take place on Saturday, February 27th, in the Venetian Hall of the Holborn Restaurant. The chairman will be F. Wood-

house Braine, Esq., F.R.C.S., whose universal popularity with the profession will go far to ensure a successful meeting. Communications should be addressed to D. Hepburn, Esq., 9, Portland Place, W.

WE hope that all those who are in possession of news that they think will be of general interest to the profession, such as hospital appointments and changes on the staff, retirements, honours conferred upon members of the profession, particulars concerning those who have died during the month, and any other matter which should be recorded in our pages, will do us the favour to communicate them to us without delay. It is our earnest wish to omit nothing, but a complete news column cannot possibly be maintained without the hearty co-operation of all who have news to impart.

CORRESPONDENCE.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—You have never hesitated when the interests of our science demanded it, to expose and rebuke nonsense in learned garb; it is therefore with confidence that I appeal to your judgment upon some statements recently published in editorial form in the *Lancet* (December 19).

First of all the author of the article reproduces "for contemporary guidance" the views of Hunter as to the limitations of dental surgery; surely that which defined the limits in 1778 will scarcely answer the same purpose now? seeing that both the general profession and its dental offshoot have changed in many respects since then.

Further on Hunter is quoted as follows:—"There is some operation going on which produces a change in the diseased part." Notwithstanding the author's patronizing commendation of Hunter, he thinks this phrase clearer and better for the following translation, "There must be something active to kill it"! but not content with rendering the great classical writer in language as foolish and misleading as his own, he presumes to invent a deduction from the words and father it on Hunter. What Hunter actually adds to the quoted passage is—"it almost always begins externally"—whereas the *Lancet* makes him deduce that "it is not due to external or accidental causes." This can only be explained on the hypothesis that the author had not read Hunter's work.

The author of the article quotes Hunter to the effect that it is rare to see decay commencing after fifty years of age, and then as if to show how easy it is to make indefensible deductions from simple statements, he assumes that after fifty the teeth acquire an immunity from the disease. Of course only a certain number of people live over fifty years, and of these many are edentulous, or have a good deal of caries already present in their teeth.

Hunter's book is a classic among professional writings, and notwithstanding the advances of science since his day, it is marvellous how little he wrote that would now have to be retracted in the light of modern investigation; perhaps there is no ancient writer whose writings would require so little alteration. His apparatus for investigation was almost worthless, and yet his natural acumen saved him from rash conclusions, and guided him often to suspect truths that it was reserved for a later generation with modern microscopes to demonstrate. Both in omitting to discuss what he did not understand, and in thoroughly mastering what he did discuss, Hunter contrasts very violently with the leader writer of the *Lancet*, and since the impression conveyed by the leader in question will certainly be that Hunter wrote dreadful nonsense about dental matters, I hope some notice will be taken of the matter.

I am, &c.,

A STUDENT OF DENTAL PATHOLOGY.

WE quote the following letter from the *Lancet* as bearing upon the observations of our correspondent.—ED. J.B.D.A.

"Decay of the Teeth.

"To the Editor of THE LANCET.

"SIR,—There is an annotation in *The Lancet* of December 19th on 'Decay of the Teeth,' which seems to call for some attention, and I should like to quote from a recent text-book, 'Dental Surgery,' by J. and C. S. Tomes, appendix, p. 730, which says:—"If caries has not occurred before five-and-twenty, there is a strong probability of immunity until about the fiftieth year, when, coincidentally with other manifestations of bodily decline, the teeth again become liable to be extensively attacked with caries.' This appendix, which is a complete *résumé* of the then literature (1873) on caries, concludes thus:—"That caries is an effect of external causes, in which so-called 'vital' forces play no part. That it is due to the solvent action of acids which have been generated by fermentation going on in the mouth, the buccal mucus, probably, having no small share in the matter; and when once the disintegrating process is established at some congenitally defective point, the accumulations of food and secretions in the cavity will intensify the mischief by furnishing fresh supplies of acid.' Recent observers have found bacteria and micrococci in carious teeth to be constant, but whether as agents or accomplices is still a moot point. I do not give my own views.

"I am, Sir, yours truly,

"Brook Street, W., Dec. 21st, 1885.

S. J. HUTCHINSON."

Evrard's Forceps.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—About six weeks ago I had a pair of forceps snap in attempting to extract a lower canine under gas, in much the same manner as has chanced to Mr. Sanders, but fortunately without the same consequences otherwise.

The instrument was one of a set made to my order by Mr. Evrard about eighteen years ago, so there is no doubt as to its being genuine. I have had a new half made by Mr. Collins through Messrs. Ash, and have no doubt one or other of those gentlemen may be able to produce the broken parts, if any one cares to apply for them.

I may just further say that out of some forty pairs of Evrard's forceps I have had in use, this is the *only* one that has broken in such an unexpected way.

WM. HENDERSON NICOL,

2, Clarendon Road, Leeds,
18th December, 1885.

L.D.S.Eng.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—The alarming accident which befell Mr. J. J. H. Sanders, and referred to in one of your leaderettes in your last issue, forcibly brings to mind the case of my own, reported in your Journal for January last year.

With patients in a recumbent position and the epiglottis more or less under the influence of an anæsthetic, the accident referred to will most assuredly be of more frequent occurrence as anæsthetics become more used, unless some special means be taken to guard against it. Since recording my own case I have had great experience in the use of the oral net spoon, described at the time of the case in question, and have without exception found it answer admirably. It can be held by the administrator, and neither interferes with respiration nor the operator, and certainly gives increased confidence by removing the fear of any foreign body by mischance finding a passage into the larynx.

Yours faithfully,

26, Park Square, Leeds, Jan. 3rd, 1886.

T. S. CARTER.

COMMUNICATIONS HAVE BEEN RECEIVED FROM J. Tomes, London; W. Fisher, Dundee; C. S. Tomes, London; F. Canton, London; C. V. Galippe, Paris; W. Watson Cheyne, London; R. H. Woodhouse, London; Sir William McCormac, London; Oakley Coles, London; George Pedley, London; Dr. Walker, London; J. S. Amoores, Edinburgh; A. D. Abbot, Torquay.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 40, Leicester Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Members are reminded that their Subscriptions for the current year are now due and should be remitted to the Treasurer, at 40, Leicester Square.

According to the Byelaws of the Association, Members who are one year in arrears are not entitled to receive the Journal.

All Correspondence for the Editor, Books for Review, and Exchange Journals should be addressed to 40, Leicester Square, London, W.C.

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The Coming Congress.

LAST month we attempted to place before our readers a succinct account of the course of events that have resulted in the present uncertain and unsatisfactory state of opinion with regard to the next International Congress. It is unnecessary to recapitulate the points of the unfortunate dispute; we view with deep regret the course that the discussion has taken, a regret that is still more keenly felt by our American *confrères*, but of the rights and wrongs of the matter we do not feel called upon to speak. We do, however, feel called upon to pronounce very clearly our own views upon the course of action that should be pursued as regards the future. The current number of the *Cosmos* contains an editorial article with every word of which we very heartily sympathise. The *Cosmos* calls upon the profession to state promptly what they are prepared to do:

"whatever is done should be done at once. Every dental society should take the first opportunity to record its decision in the dental journals, and thus a consensus of professional opinion could be had which would satisfactorily determine whether concerted action on the part of the dentists could be secured." Such an appeal cannot be disregarded, it is therefore our duty, in common with other representative bodies, to make up our minds and announce our decision.

The question before us is this: whether it is advisable under the present circumstances, to hold a dental section or not.

Before answering the question, it will be as well to point out what the *present circumstances* alluded to are; they are briefly these:—

1st. The medical profession in America are in a state of "dissension and bitter antagonism" (*Cosmos*) concerning the way in which the organisation of the Congress has been carried on; whatever the merits of the case, there can be no doubt of the seriousness of the quarrel.

2nd. The Dental Section was, in the first place, omitted by inadvertence. On the omission being pointed out, it was promptly rectified by the original committee. At a subsequent stage of the proceedings, however, it was objected to in a manner that alienated the sympathies of a large portion of the American dental world from the whole undertaking, and its final restoration has for many reasons not succeeded in reviving their friendly feelings.

3rd. Twenty leading dental practitioners, at a meeting at Buffalo, when asked by Dr. Taft, the president-elect, to declare their opinion, declined unanimously to have anything to do with the Congress; while, at a representative gathering at New York, out of forty eminent practitioners only two were found to be in favour of it.

4th. The *Cosmos* and the *Independent Practitioner* consider the Congress cannot be a success, and that the Dental Section will probably share the fate of the whole meeting.

It is impossible for us to form a correct judgment except by watching the expression of American opinion, we think, however, that the signs of the times are very plain on this occasion. The Congress will not represent the united profession; the Dental Section, if it is held, will be received with but half-hearted support, and those who have been responsible for making the organisation of the Congress the occasion of an unseemly quarrel, will be entirely to blame for the withdrawal of the representatives of other countries from the doubtful experiment.

Under happier auspices a congress in America would have been hailed with delight by all of us; we should have flocked to it certain that our neighbours would strain every effort to outdo the glories of previous meetings. We hope sincerely that at some future date these auspices may preside over a transatlantic gathering, but we cannot hide the fact that this is not the case now, and sorry as we are to say it, we conceive that it is unadvisable under the present circumstances to hold a dental section in 1887.

One more word and we have done. Some hints have been thrown out about a separate dental congress. We cannot express too strongly our disapproval of any such scheme. It has been the work of nearly a generation to amalgamate ourselves with the profession of medicine as an important branch, and any attempt to stand apart from the great profession would imperil all the work of the last thirty years and would forfeit all our claims to public recognition or respect—we are either a branch of medicine or nothing, and any act of separation would be social and professional suicide. We trust that this scheme will never receive any countenance or support from the profession either in America or in England.

We understand that a meeting will be held in May, at which our American brethren will reconsider the position of affairs. It is possible that the result of that meeting may be a dissipation of the present thunder clouds, but pending its deliberations we must adhere to the views expressed above.

Truth or Fiction.

At the present time the Science and Art of Dental Surgery are making very rapid strides, new things soon become old, and startling statements and surprising observations are grown so common that a paper must contain some very astounding revelations indeed to astonish anyone who is in the habit of reading the periodical literature of our profession. We confess, however, to have experienced very strong sensations of various kinds, foremost amongst which ranked astonishment, after perusing a paper in a western contemporary (*The Pacific Medical and Surgical Journal*, Jan., 1886) emanating from the pen of W. J. Younger, M.D., and describing his experiences of transplantation of teeth. Dr. Younger's results are so contrary to what we should have expected to follow his treatment, that we feel it necessary to acquaint our readers with the principal points, and to leave them to pass an unbiassed judgment upon the matter.

Dr. Younger's earliest observation of transplantation did not prepossess him in favour of the operation, and we do not wonder at it. A lady of rank and beauty desired to have her four discoloured upper incisors replaced by more becoming substitutes; an eminent practitioner was called in and proceeded to arrange the matter, a girl was procured who possessed the sort of teeth requisite, and was also willing to part with them for a consideration; the greatest secrecy was observed, both patients were closely veiled and seated back to back, so that there should be no chance of mutual recognition afterwards.

The transfer was then effected, but, to the disgust of the spectator (Dr. Younger), without the precaution of cleansing the new teeth from blood, *or even from tartar* before inserting them into their new homes. The result of the operation was very tragic, the girl who had sold her teeth proved to be leading an

immoral life, and at the time of the operation to be affected with syphilis, the great lady acquired the disease with the teeth, and instead of new charms unconsciously purchased disfigurement and death. The eminent practitioner repenting too late, abjured transplantation. We forbear to print the gentleman's name, and we think this a kinder course than that pursued by Dr. Younger, who, giving the name and address of the operator, first convicts him of putting dirty teeth covered with tartar into fresh sockets, and moreover, of neglecting to ascertain whether the source of the teeth was free from risk of specific disease, and then tries to palliate the horrible accusation by a compliment to the care and skill of the operator that seems fulsome and ridiculous as an appendix to the discreditable story. The whole thing took place so long ago that the only motive for exhuming it must be that Dr. Younger thought he must produce a frightful example as a foil to his own brilliant achievements. It is a favourite practice with a certain class of authors to enhance the record of their own successes, by a preface, shewing how the greatest men have failed in similar endeavours; but we must do Dr. Younger justice and assert that this was unnecessary modesty on his part; his marvellous performance required no contrasting failure to render it striking. Standing on their own legs with no tarnished reputations for a footstool, Dr. Younger's statements are quite tall enough to attract universal attention, but we will let them speak for themselves. Dr. Younger has practised transplantation for years with triumphant results; he employs antiseptic precautions, and no doubt makes such enquiries as shall place the patient beyond any risk of acquiring unpleasant dyscrasie together with new teeth.

After an experience of a great number of cases (the mere figures testifying to the very extensive practice and unparalleled opportunities of the doctor) only two cases of failure have occurred, and in both of these the patient alone was to blame. The first difficulty that had to be overcome was that the new tooth was sometimes too large, and if the root were pared or truncated the loss of periosteum rendered union less likely; Dr. Younger recollecting, no doubt, the policy of Procrustes, *enlarged the socket!* This proved quite a success, and the experimenter, encouraged, went on 'from height to height' until he crowned all his boldness by deliberately making an artificial socket with his drill in a piece of bone where no socket existed and transplanting a tooth into the

place. Another difficulty beset the doctor, whereas patients were flocking to his operating-room to get new teeth, the sources from which new teeth could be obtained were rare and not to be met with at a moment's notice ; teeth could be kept for two days with antiseptic precautions, but this was not long enough to enable him to keep up a sufficient supply. Unbaffled by this apparently insurmountable obstacle, the doctor, after a careful study of Hunter's experiments, resolved upon the following plan :—He arranges that all his friends shall send him all healthy teeth and roots that they may extract for regulations or other purposes. The instant they arrive, Dr. Younger transplants them into the comb of a cock and there leaves them to grow till required, thus each chanticleer goes about the poultry-yard decorated with incisors and bicuspid ; when a patient presents herself, the transplantation is effected from the cock's comb to the patient *with invariable success*. If the crown is sound, but the root exostosed, Dr. Younger removes the tooth, saws off the offending root, affixes a healthy one, and replants the tooth—a kind of reversal of pivoting. These results have been verified and vouched for by many medical men and dentists of eminence. After reading such disclosures, the reader will agree with us that these wonders need no additional colouring from the mischances of others. We should as soon expect to find Gulliver or Munchausen hesitating to trust the native piquancy of their narratives to carry them along. We congratulate Dr. Younger on his successes, we compliment him on the rigorous scientific morality that has prevented him from adding anything to the bare truth where exaggeration might have been picturesque ; there is no greater insult to the understanding of a scientific audience than an exaggeration. The subject Dr. Younger has chosen is a favourite field for adventurers, not always trustworthy, and the choice lay before him to enrich it with careful experiments and a faithful record, or to disgrace himself and degrade his profession by a tissue of imaginary achievements and add to the bewilderment of the subject a fresh confusion of his own. What his choice has been the reader can judge without difficulty.

ASSOCIATION INTELLIGENCE.

Central Counties Branch.

THE next meeting will be held on Thursday, the 25th of March, 1886, at the Dental Hospital, 71, Newhall Street, Birmingham; coffee at 5.30, business at 6 o'clock. Several papers are promised, including one from Professor Poynting on "Thermometers and Thermostats," which was unavoidably postponed at the last meeting.

BREWARD NEALE, *Hon. Sec.*

A meeting of the above Branch was held on Thursday the 21st January, 1886, Mr. C. Sims, Vice-President, in the chair. Among those present were Messrs. J. Humphreys, F. W. Richards, F. H. Goffe, E. Sims, Mills, Miller, Wright, Wilson, Roberts, R. Owen, McCulloch, and Breward Neale (Hon. Sec.)

The following gentlemen were elected associates of the Branch: Messrs. Lewis Robertson of Cheltenham, F. J. McCulloch of Wolverhampton, and Matthews of Birmingham, Dr. Geo. Dall Orrock being elected a member.

Mr. GOFFE showed a case of necrosis of superior maxilla which had led to loss of several teeth and their alveolus, but which had apparently caused little or no inconvenience to the patient, and whose aspect was that of a healthy and well nourished boy. No history could be obtained that would account for the condition.

Mr. C. SIMS showed a successful case of cleft palate.

Mr. BREWARD NEALE showed two cases of loss of the hard palate, and the incisors, canines, and bicuspid, together with the alveolar process, which had been satisfactorily restored by black rubber plates; one being a boy of twelve years of age, who was quite deaf, having lost his hearing at five years of age, and whose powers of speech were extremely defective; since wearing the apparatus the articulation and aspect of the patient had much improved. Mr. Wright Wilson, F.R.C.S., gave an interesting account of this case, which first came under his notice at the Ear and Throat Infirmary. In the other case, the patient, a young woman of eighteen years of age, had also lost the greater portion of the soft palate, and the whole of the nose, the vomer, nasal bones, &c., having entirely disappeared, leaving an opening the size of a sixpence, through which the mouth and throat could be clearly seen. Mr. Neale had restored the palate, teeth, &c., and asked the meeting for an

expression of opinion as to the best method of restoring the nose, the operative procedure being contra-indicated by the condition of the patient. In both these cases the disease was believed to be congenital syphilis, and the inferior incisors were markedly peg-shaped, especially in the case of the female. These cases were examined by the gentlemen present by means of the electric lamp, an improved form of which was shown by Mr. Richards. The light, which received the general commendation of the meeting, is made by Messrs. Coxeter of London, and supplied by Mr. Thos. Bolton, of 57, Newhall Street, Birmingham. There is no heat from it; the battery used is the silico carbon, which is also obtainable from Mr. Bolton.

Mr. OWEN also showed a convenient form of accumulator for storage of electricity, which had the great advantage of being small and portable.

The cases elicited considerable discussion, and the meeting closed with a vote of thanks to the gentlemen who had taken part in the proceedings.

Scottish Branch.

THE Council of the Scottish Branch met on Monday, 1st of February, Walter Campbell, Esq., L.D.S.Eng., Dundee, in the chair. A sub-committee was appointed to make arrangements for the Annual Meeting, to be held in Glasgow, on Friday, June 4th. Mr. J. Leslie Fraser, L.D.S.Edin., of Inverness, was admitted to membership of the Association of the Branch.

An illegal entry in the local directory was brought under the notice of the Council, and instructions given to the law agent of the Branch to communicate with the editor of the directory, with a view to its erasure, and the prevention of such entries in future.

A case of unprofessional conduct on the part of an L.D.S.Ed., having been submitted to the Council, the Secretary was instructed to bring the matter before the Council of the Royal College of Surgeons, Edinburgh.

Midland Counties Branch.

AN open meeting of members and friends will be held at the Young Men's Christian Association, Peter Street, Manchester, on Saturday, February 20th, at six o'clock. Communications on any professional topic will be welcome.

The Council will meet at 3.30.

The annual general meeting of this Branch takes place at Bradford (Yorks) about the end of April. Gentlemen willing to read papers, give demonstrations, or assist in any way, are invited to communicate with the Secretary, W. H. Waite, 10, Oxford Street, Liverpool.

ORIGINAL COMMUNICATIONS.

On Capping *versus* Extraction of the Dental Nerves.*

By JOSEPH WALKER, M.D., M.R.C.S., L.D.S.

MR. PRESIDENT AND GENTLEMEN,—The operation of capping *versus* extraction of the dental pulp is, and must be, of universal interest to the dental surgeon. I trust, therefore, that no apology is necessary from me in introducing the subject for your consideration and discussion at this meeting of dental practitioners.

This question has been written upon by most of the leading dental surgeons in England, Germany and America. Thus, Messrs. Samuel Cartwright, Thos. A. Rogers, C. S. Tomes, A. Coleman, Sewill, Hutchinson, F. Flagg, McQuillen, Williams, Chase, J. S. Latimer, C. E. Latimer, Palmer, Klump, Hitchcock, and many others have made it the theme of long and interesting papers.

To accomplish either capping or extraction of dental nerves we use escharotics of different descriptions and different strengths.

Lauder Brunton says: "By escharotics are meant substances that completely destroy the tissues to which they are applied and produce a slough. They are distinguished from other caustics simply by the greater intensity of their action. The principal escharotics are; the hot iron, sulphuric acid, nitric acid, potash, chloride of antimony, chloride of zinc, acid nitrate of mercury, bromine and lime. The weaker caustics are; nitrate of silver, sulphide of copper, sulphate of zinc, iodine, carbolic acid, arsenious sulphide of acid, arsenic, and dried alum.

"*Action*.—Escharotics combine with the tissues and destroy them. 1st. They destroy the virus in and the tissues around a poisoned wound. 2nd. They destroy unhealthy tissue, such as exuberant granulations. 3rd. They are used to open abscesses.

* Read at the Annual General Meeting of the Association at Cambridge, August, 1885.

Around the part thus killed, inflammation is set up and the part separated as a slough. Besides their local action, these agents act reflexly on other parts of the body through the nerves of the region to which they are applied."

The success attending capping a dental nerve has been and is still open to much discussion. In the numerous papers I have read on this treatment and the result therefrom, written by well-known dentists of good professional repute, I find much divergence of opinion. A table of results, published by Dr. J. S. Latimer, of New York, shows a large percentage of success after capping. But this large percentage of successful cases is not borne out by facts in England, so far as my own observation enables me to judge, not only in cases treated in my own surgery, but pulps capped by a large number of dental surgeons in London and the provinces. A tooth with pulp and nerve capped generally, shows signs of being, and is, an unhealthy organ, and the universal sinus with larger or smaller sac at the apex of the treated tooth is a proof of this statement. This result may be due to atmospheric influences, the constant changes of temperature or the volume of moisture in the air of England, but from whatever cause periosteal inflammation follows capping as a rule.

Experimental facts show that very severe injuries may be inflicted on living tissues of healthy animals, such as actual cautery, destruction by zinc chloride, or even (in the case of bone) destruction by caustic alkalies, without producing any pathological effects in adjoining parts not destroyed by the escharotic, provided that the blood circulating in those parts is not contaminated, but that if septic products are present in sufficient quantity in the blood, injuries of much less intensity may lead to inflammation.

The one thing fraught with danger is that the "septic process itself" should go on in contact with living tissue. For this the essential condition is that a certain quantity of putrescible liquid, such as diluted serum or exudation liquid, should remain in a cavity *outside* of the organism in the sense of being beyond the reach of living blood and tissue, *inside* as regards temperature, and that *that* liquid should be contaminated. What is so obvious as regards the peritonæum is equally true as regards all the other cases in which atmosphere or surface contamination is seen to play a part in determining the course or development of an inflammatory process. In order that "germs" may have an opportunity of doing their fatal work there must be exudation or dead tissue.

Professor Hunter's experiments are facts which constitute the most important support to his theory that there is only one true cause of inflammation, namely, "the immigration of viable micrococci capable of multiplication," but there are innumerable remote causes, and again he says "inflammation is an epidemic which is spread over the whole world." By these experiments he shows that under what are now called aseptic conditions, tissue may not only be injured but destroyed by chemical agents, as well as by the actual cautery, without exciting inflammation in the neighbourhood. Two series of experiments have been made by him to obtain evidence on this subject.

Exposure of dental pulp from carious bone must involve some of the conditions named by Simon and Sanderson. If so, capping the pulp must be unsuccessful from fluid and micrococci circulating in the sac, the date of exposure and injury of the pulp being unknown.

Traumatic injury of the pulp during operation (when excavating the softened bone) may be successfully treated by an eschar, produced by the application of chloride of zinc, if the tooth has been isolated by the rubber dam and the surroundings kept under the influence of an antiseptic by means of a Richardson's spray, or a continuous flow of carbolised warm water at the hands of an assistant. The wound would then heal by first intention and all the conditions of Sanderson's description be complied with.

I have capped nerves so treated and many with wounded and bleeding pulps. I have encouraged the bleeding for several minutes, constantly involving the atmosphere with the spray, then applied escharotics—chloride of zinc, pure carbolic acid and the actual cautery—capped the pulp with court-plaster dipped in carbolic acid, and filled with osteo-plastic stopping. These cases have uniformly proved successful.

The extraction of the dental pulp and nerve in sheath can be accomplished after treatment in upper six central teeth, upper bicuspid (buccal nerves), upper first and second molars, anterior buccal and palatine nerves, lower canines, lower bicuspid, lower first and second molars. Exceptionally in the upper bicuspid palatine nerve, upper first and second molar, posterior buccal, upper and lower wisdom, four lower incisors.

Treatment.—Free use of the enamel cutter, the walls of every cavity to be so prepared as to admit of a free passage of the nerve extracting bristle perpendicularly into all the nerve canals (or as

nearly as the surrounding soft parts, as lips, cheek, &c., will admit), as shown in specimens passed round.

This preparation can only be accomplished step by step. The broken walls to be freely cut down with enamel cutter, then the cavity dressed with

Finely levigated arsenic	...	...	$\frac{1}{18}$ grain,
Acetate of morphia	...	...	$\frac{1}{18}$ grain,
Carbolic acid...	...	...	1 drop,

to be applied on wool and in direct contact with the exposed opened sac of the nerve pulp.

In from 24 to 48 hours remove the dressing, prepare the cavity by free excavation and drilling the bone of the crown so as to open up all the mouths of the dental canals (remember the position of the bifurcation, and never permit the drill to pass through the floor). A second arsenical dressing, combined with tannic acid is now to be applied on wool to each separate canal. These dressings to be secured by Jacob's gutta percha stopping.

If the foramen of either fang is very finite the dressing should be retained from three to six days, so that the entire nerve of each canal may be permeated with the arsenical and tannic acid dressing through capillary attraction. The slough will then comprise the whole of the pulp and nerve even to the apices of each canal.

The entire extraction or withdrawal of the nerve depends on the contraction and position of the sheath and its contents. The contraction is universally from the walls of the lesser canals to the inner wall of the canal of largest diameter. For instance, the bulk of the shrunken pulp will be found in the mouth of the palatine canal of the molar teeth; that is, if the action of the dressing has permeated all the fangs and produced a perfect slough. So in the bicuspid, the contracted sheath will be found in the buccal canal, the attachments of the sheath in this larger canal overpowering the slight attachment of the palatine.

In the other teeth the curves are so acute and the foramen so small that repeated efforts only prove how hopeless is the task of the separate extraction of the nerve in each fang, hence, how much depends upon the action of the tannic acid, together with the position and completeness of the contraction of the sheath and nerves.

Extraction.—Select with care a nerve bristle and pass through a fine flame of a spirit lamp. Discard all bristles with the slightest elbow; the teeth of the bristles should be well defined and raised at a slight angle from base. Pass the tempered bristle upwards

through the centre of the fang of the fullest calibre, rotate it half a circle twice or thrice, then slightly withdraw ; the force of opposition will influence you whether to repeat the rotation or to continue to withdraw. This is one of the most delicate operations in surgery, fracture of the bristle being fatal to extraction.

Failing extraction, we must comply with the conditions of Mr. Arthur Underwood's paper on "The Cure of Alveolar Abscess," and proceed on the lines there prescribed, viz., disinfect and disin-tegrate the remaining portion of nerve with iodoform and essential oil, whether sanitas, cajeput, or eucalyptus is, I think, im-material.

To repeat thorough and complete extraction of the pulp and nerves with immediate plugging of the canals and crown cavity is the suggestion of this paper.

The following is a summary of the names of the dental surgeons from whose papers on "The Dental Pulp and Nerve" I have consulted previous to the preparation of this paper.

I have divided it into two parts, and each part is again sub-divided into two heads, viz., "England and America," "Capping and Extraction."

ENGLAND.

CAPPING.

Mr. George Henry.
Mr. Merson.
Mr. White.
Mr. Coleman.
Mr. Oakley Coles.
Mr. Stocken.
Mr. T. Charters White.
Mr. Laurie.
Mr. Vanderpant.
Mr. Hutchinson.
The Report Committee.

EXTRACTION.

Mr. Samuel Cartwright.
Mr. Oakley Coles.
Mr. Merson.
Mr. Sewill.
Mr. Thomas A. Rogers.
Mr. Tomes.
Mr. C. S. Tomes.
Mr. Ashley Barrett.
Mr. Hutchinson.

AMERICA.

CAPPING.

Dr. T. B. Hitchcock.
Mr. S. B. Palmer.
Dr. H. Hirschfield.
Mr. D. Hagelberg.
Dr. A. H. Thompson.
Mr. S. S. Southworth.
Dr. W. H. Trueman.
Dr. G. W. Klump.
Dr. C. E. Francis.
Mr. J. Brockway.

EXTRACTION.

Dr. J. H. McQuillen.
Dr. C. E. Latimer.
Dr. H. Hirschfield.
Mr. Homer Tryo.
Mr. E. Palmer.
Dr. H. S. Chase.
Dr. Foster Flagg.
Dr. B. Oscar Doyle.
Mr. J. Neelands.
Mr. W. Dickinson.
Mr. S. L. Williams.
Mr. J. D. White.

APPENDIX.

Dr. H. S. CHASE, speaking of the treatment of pulp cavities and root canals before filling, says: "When sure that the contents of the root canals are removed, I plug at once, leaving a few fibres of lint moistened with creosote in the extremity of each root; when not sure and in the molars, I think this is generally the case, I wait a few days, until decomposition has taken place in the vessels, which accomplished, they can be syringed and 'sucked out.'

"In upper teeth after removing the pulp I plug with loose cotton for decomposition to take place when the force of gravitation will, to a great extent, bring down the contents of the root canals into the cotton, then syringe with tepid water and alcohol, before plugging with creosote and tannin.

"In lower teeth I proceed differently, as the force of gravity would be likely to bring portions of the decomposed vessels through the roots and set up periostitis. As soon as the pulp is dead I saturate the roots with creosote and tannin; in a week syringe with alcohol and saturate again with tincture of iodine; in another week syringe again with alcohol, wipe with creosote and tannin and plug at once with metal."

In a later paper on devitalising and removing pulps, Dr. Chase mentions using arsenious acid paste covered with a pellet of wool and adhesive wax to be left in the tooth three or four days, then removed and the cavity left open to prevent discolorisation. "In from eight to fourteen days," he says, "I remove the pulp, having previously cut away any superfluous portion of the crown so as to have a free passage to the canal, I then insert a broach as nearly to the apex as possible, and steadily rotate it three or four times, or until I feel sure it has wound the pulp round itself, then withdraw. Occasionally the pulp is split from one end to the other, frequently I only get a trace of it, I then take a new broach and try again. When I cannot find the canals at all, I saturate the tooth with creosote, or place a little dry tannin where the canals ought to be and plug immediately.

"It is consoling to believe," he concludes, "that if the canal is so small we cannot find it, or finding, cannot introduce a very fine broach, the amount of destructible matter in it is so very small, that even if it should fail in being converted into tannate or carbo-late of albumen, it can do but little injury."

Again Dr. Chase goes on to give the following table of destroying pulps and filling pulp cavities.

Number operated on in eight months...	...	30
Males ... ..	...	7
Females .. ...	...	23
Arsenic applied once in	...	25 cases
" " twice in	...	3 "

Arsenic applied four times in ...	...	...	2 cases
Caused pain in...	...	...	10 "
Number of days before plugging	...	...	2 in 1 case
" " "	...	...	3 " 1 "
" " "	...	...	4 " 1 "
" " "	...	...	7 " 11 "
" " "	...	...	50 " 2 "
" " "	...	...	30 " 1 "

The other cases ranged from 9 to 18 days each.

Periostitis followed plugging in	...	...	2 "
Suppuration " "	...	...	1 "
Extracted none.			

Number of months since operations to date of table, 4½.

"My experience is," he says, "that teeth are more liable to periostitis within the first month than after. I will conclude my report with a summary of the mode of treatment: Arsenic, tannin and creosote (as a devitaliser) allowed to remain twenty-four hours, then removed and at that time the pulp also. If the latter is not dead, I wait a day or two before applying the arsenic. When the pulp is thoroughly removed, syringe and fill pulp cavity with a saturated tincture of sulphate of tannin, plug with cotton and sandarac for a week, then remove the cotton, syringe and place a pledget of cotton and creosote in the cavity of the roots. If the vessels of the roots are alive when I remove the pulp and are beyond my reach, I plug the tooth at the usual time regardless of their vitality."

Mr. J. D. WHITE says: "From older methods of treating the pulp, it seemed as if it were a sensitive vermicule in a little hole in a bone, and all that had to be done was to kill it with a stunning blow, or smother it to death with prolonged suffering, or punch it to death with steel instruments, without the least idea that it was connected with a living human brain, and thus capable of shocking the entire frame."

His own method is arsenic used as follows:—

R. Arsenious acid	...	...	gr. xxx.
Morphiæ sulphas	...	...	gr. xx.
Creosote	...	...	q. s.

Misce.

Ground 2 or 3 hours and mixed to a paste.

"I have kept," he says, "a record of 100 cases where I have used the above preparation of arsenious acid paste, and noted the amount of pain experienced, 84 gave no pain, 16 gave pain of an average duration of one hour, these were in patients of a nervo-sanguine temperament with freshly exposed nerves. Nerves that have been some time exposed, as a rule, are destroyed without pain.

Mr. J. L. WILLIAMS says:—"We have referred to the removal

of destruction of the pulp by a surgical method as being calculated to leave the root in the best condition for its future life and health. As the professor is probably not, to any extent, familiar with the method, I will describe it in detail.

"If desirable to remove the pulp from any of the sixteen anterior teeth, a groove should be ground across the lingual and labial surfaces, quite close to the margin of the gum, just through the enamel or a little deeper. Place the blades of a pair of excising forceps in these grooves, and with a quick dexterous closure cut off what remains of the crown.

"This will leave the pulp exposed at its broadest diameter. An orange wood, which has been previously prepared to correspond in size and shape with the pulp, is inserted into the canal beside it, and with one blow is driven to the extremity of the root. The remains of the pulp will generally adhere to the wood on its withdrawal, if not, it can easily be removed by a barbed broach. If the operation is carelessly performed it may be very painful, but skilfully executed it causes little or no pain. I speak from an extended experience, having performed the operation many times.

"After the removal of the pulp the root may be filled in any manner approved by the operator, the *one* point of *utmost importance* being that it should be *plugged at once*.

"Ninety per cent. of the failures in the treatment of pulpless teeth arise from keeping the canal open when it should be closed.

"In my own practice I always plug the root with the orange wood point above referred to, previously saturating it with carbolic acid."

Dr. FOSTER FLAGG's method of extirpation of the pulp is as follows:—If the cavity of decay does not afford direct access into the pulp-cavity and from thence to the pulp-canals, he prepares and fills the tooth as if there were no complication, and decides upon the best point for drilling such entrance into the pulp-cavity as shall most perfectly subserve the purpose of thorough extirpation.

This operation he calls "tapping the tooth," and the orifice is called a "tap-hole."

His formula of dressing in cases of exposed pulp is appended:—

Ol : creo :	...	...	gl. iii.
Sp : rect :	...	...	gl. x. M.
Add Aquæ	...	...	3.

Mr. THOMAS A. ROGERS recommended arsenious acid dressing on exposed pulps eighteen years ago. Length of time required from 48 to 96 hours. The nerve to be then removed unless the tooth was too tender to bear the operation when it should be dressed with creosote from a week to a fortnight. After extrac-

tion of nerve, he filled the fang with a strip of twisted wool dipped in creosote, plugging over this with wool and mastic. This dressing he changed once a day for about a week. He then inserted gutta percha, and if no discomfort was experienced in a fortnight filled with gold.

Speaking twenty years later, he says: "I am still of my first opinion, that when inflammation or suppuration of the pulp is set up, it is necessary to destroy the whole pulp and fill the roots of the tooth, and to accomplish this destruction, I advise the use of arsenic as being speedy and effectual in its action, and combining with the albumen of the animal matter causes the pulp to shrivel and become detached from the bone, so that it can easily be brought away from the whole length of the fang or fangs."

Mr. SPENCE BATE says: "I am in the habit of using glycerine to a large extent in the conservation of the dental pulp, and have often after wounding the pulp in deep excavations (having relieved the pain consequent upon such incision with carbolic acid) saturated the cavity with glycerine, and filled the tooth at once without capping with permanent satisfactory results."

Mr. A. S. UNDERWOOD says, speaking of antiseptic treatment of alveolar abscess: "My endeavours to apply antiseptic treatment to these dental disorders by means of injections and dressings of eucalyptus oil and iodoform were crowned with great success.

"It is easy to believe that if an inflamed tract can be rendered aseptic, it will heal; even a slough if rendered aseptic will not be rejected by violent methods, but removed gradually and imperceptibly by absorption, and replaced as gradually by new tissue. This result will certainly take place in the case of the dead contents of a pulp cavity, if it can be rendered aseptic. The only difficulty is to find an agent capable of effecting this aseptic condition. Carbolic acid would do it, but there are two objections to its use; 1st, If used too strong its destructive effects upon the tissues are too great; 2nd, If used diluted its effects are too transient. Now eucalyptus oil and iodoform are antiseptic agents of a much more powerful and permanent kind, and yet cause no irritation or destruction of the tissues. With regard to their application, either may be used alone or both together. When necessary to inject, the oil alone must be used. In the case of alveolar abscess it is best to inject the oil every day. In the case of a nerve partly dead, the cavity may be dressed with wool dipped in the oil and iodoform and applied as creosote would be, with this difference, it is quite unnecessary to remove much of the dead tissue before application or to cover with mastic and wool, as the oil retains its power for several days when left exposed."

Mr. COLEMAN says in all cases of inflamed, irritable or exposed pulps he finds that after lessening the sensibility of the

surface by the use of carbolic acid, the best application is strong nitric acid, cap over this, and, in almost all cases, fill at once.

In difficult cases where only a small portion of dead pulp remains in the fangs, he advises the use of arsenic, not used as an escharotic to destroy, but as an antiseptic to get rid of the discharge.

Later in the same year Mr. Coleman speaks of using carbolic directly applied to the exposed pulp. He then covers it with a paper disk saturated with nitric acid for two or three minutes, removes the paper and neutralizes the cavity with an alkali, after this he caps with thick paper moistened with carbolic acid, covers with a coating of oxychloride of zinc, and when this is hard, finally fills with gold, amalgam or gutta percha.

When the pulp has lost part of its substance, he fills in the same way, only puts amalgam directly over the paper (instead of having a layer of oxychloride); then passes a fine instrument through the amalgam to the paper cap which he just perforates, and carefully withdraws the instrument, leaving the fine opening in the plug to form a vent, and thus prevent periodontitis.

When the tooth is dead or discharging, he cleans the pulp cavity, washes it with carbolic acid, and introduces a disk of card moistened with the same with as much arsenious acid as will adhere to it, places it on the floor of the pulp cavity over the orifice of the fang or fangs and either fills the whole with oxychloride of zinc temporarily, or, the pulp cavity only, and the remaining cavity permanently.*

On the Extraction of the First Permanent Molars.

By R. W. WHITE, M.R.C.S., L.D.S.Eng., Norwich.

MR. PRESIDENT AND GENTLEMEN,—I must beg your indulgence towards this imperfect paper on a subject of such interest to all practitioners of dentistry, more especially at the present time when as it were by a wave of fashion an old and almost obsolete line of treatment is being much revived by dentists of every age, mostly it is true by those old in practice who are led to resuscitate this treatment by observing the great good which such action has occasioned in times gone by, but also it is being adopted by younger men who recognise in it the easiest way of preserving the greatest number of teeth in an efficient and unmutilated condition.

When pressed to add something to the contributions emanating from the Eastern Counties, it seemed to me a wiser course to

* [Some of these statements, quoted by Dr. Walker, were made before the relative value of antiseptics was much understood, and perhaps the authors might hesitate to endorse them in their entirety in the present day.—Ed. J.B.D.A.]

open up for discussion a subject on which great diversity of opinion existed, rather than to attempt in the short time at my disposal, the compilation of a carefully worked out paper. The models submitted, in most cases being rough, comprise all bearing on the subject which have come under my observation during the current month, and, therefore, provided the patients and their relatives can be trusted, the age may in each case be relied upon, all previous extractions being certified by the entries in my books.

My mode of dealing with the subject will be to avoid everything dogmatic, and rather by suggestion than otherwise endeavour to elicit opinions of greater weight than my own. In order to keep discussion to its proper channel, I will ask you to concede as axioms the following points : 1st. Most jaws of the present time are not so large or commodious as those of our forefathers, and 2nd. The teeth of the present day through the delicacy of their enamel are less able to stand the lateral pressure to which they are so frequently subjected.

It is quite unnecessary for me to take up your time by endeavouring to give any fixed period for the eruption of any one tooth, or to state any order in which one might expect to see them. I will rather refer you to some statistics published by the then McGowan Saunders, and used in connection with the Factory Act ; from them you will recognise the uncertainty attached to the eruption of the various teeth, this was confirmed later by Mr. Cartwright in a record of a great number of cases, and, doubtless, most here will willingly admit the fact. Were it not so our case were easy, because we could say at such an age do so and so. As it is, we can only rely upon the four incisors and four six-year molars preceding their neighbours, and not even always on that.

Starting with the subject of this paper the first permanent molar, between this tooth and the lateral incisor of same jaw and side is a space to be occupied by two bicuspid and a canine, it will be occupied by them most frequently in the upper jaw in the order, first bicuspid, second bicuspid, canine ; not unfrequently first bicuspid, canine, second bicuspid ; in the lower, canine, first bicuspid, second bicuspid.

If there be room—quite a rare occurrence now-a-days—well and good, but if there be not room enough in the upper jaw, the canine in its descent either drives the first bicuspid inwards—the lateral inwards—tilts the lateral outwards, and then forwards, prevents de-

scent of the second bicuspid, appears outside the arch or produces some other deformity. In each case by lateral pressure causing decay between the bicuspids, or less frequently between the second bicuspid and molar, the lateral and central, and between it and its immediate neighbours. This decay is often very difficult to deal with, because of the starring cracks in connection with it. In the lower jaw the mischief is most frequently done between the second bicuspid and molar, which may be accounted for by the frequency of mischief arising from the posterior surface of the last temporary molar, and the fact that in this jaw it is generally the second bicuspid which has to squeeze into the small space left. Supposing that there be not room, at what age should the molar be removed? At no certain age, but directly the third tooth begins to show itself—without hesitation if the molar be the least bit decayed—with regret if it be sound. The molar will assuredly not move under the pressure; the front teeth may produce deformity, or the neglect of this precaution will be followed by some irregularity, and possibly the loss of many teeth, not to mention innumerable unsatisfactory and painful operations.

Hitherto our attention has been confined to the teeth, anterior to first permanent molar. If we now look to the second molar and wisdom teeth, we shall have no difficulty to recall cases without number in which the space allotted, more especially in the lower jaw is not sufficient, and the interstitial decay and the crowding has resulted in, besides neuralgia of cranium, affections of throat, ear, &c., &c. In these cases the first molars should only be selected when they are more or less decayed, or at all events of an inferior substance to the second molars. They should be separated directly the wisdom begin to show themselves.

Some of you will say much of expansion by mechanism or growth by Nature, but please remember during either or both of these processes mischief from pressure is going on, and I for one will say there is no more fertile source of decay than the indiscriminate use of irregularity plates.

I will now ask your attention to a few models. They are not perfect cases; in fact, not one is even a good case; of such you have all seen many. These have been selected to show the weak points in the practice in order as at first stated to obtain some discussion on this very important question.

Q. I., is the mouth of a woman thirty-three years of age, who had the first right upper molar removed in early life, but not

soon enough to prevent mischief being done between the bicuspid, bicuspid and canine, and canine and lateral. The other first molars were not removed till later in life.

I. R., is sister to the former, twenty years of age, the four molars were extracted six years ago, one was slightly decayed the others were perfectly sound; this is a very imperfect case but I hope the wisdom teeth when they come will improve the articulation.

This patient has never seen a dentist since the date of the extractions, till in answer to my request she submitted to the model being taken the other day (thirty-eight years). Her eldest sister had the four teeth removed by Mr. White quite early. She has never had a tooth stopped and never lost one. A brother had a perfect set till about a year ago, when neuralgia came on, and on consulting me, I discovered that the wisdom teeth were trying to get through, and nearly all the molars were decaying interstitially.

These cases are to show what pressure will do to really good teeth.

N., fifteen years of age, front upper teeth forced forward, so as to be quite free of the lowers. First bicuspid decayed from pressure, and therefore removed a week or two ago, all other teeth sound at present, most probably saved by the moving forward of the incisors.

O., seventeen and a-half years, four molars removed during the last month, three slightly decayed, three wisdom teeth just appearing. All other teeth sound. These two patients N. and O. are sisters.

O. S., ætat twenty-two years, four molars removed six years ago, decay had then begun between bicuspid and canines, and also in laterals; upper molars are much decayed, lowers sound.

L., ætat sixteen. All sound. Two years ago were much crowded, and I was anxious to remove four first permanent molars, but the mother declined. Patient wore expansion plates, the teeth became regular, but seem inclined to resume their old position, for I anticipate considerable mischief when the wisdom teeth come. Features very small.

M., ætat sixteen and a-half; four years ago one molar removed from lower. Teeth then sound and regular, three others removed last year, in upper interstitial decay everyw here; doubtful if they will become regular without a plate.

I., ætat fifteen. Two years ago, I wanted to remove four molars. Relatives declined. Last week removed first bicuspid upper and lower right side, second upper bicuspid left. Interstitial decay almost everywhere. Teeth naturally good.

H., ætat eighteen. Two upper molars removed between three and four years ago. A bicuspid much displaced inwards, removed same time. Only one case of interstitial decay. Teeth still very soft, several crown stoppings.

G., ætat fourteen. The four molars to be removed next week, one much decayed, two slightly. Mother and eldest brother both had same teeth removed.

An Enquiry into Several Methods of Administering Nitrous Oxide Gas.

BY FREDERIC HEWITT, B.A., M.B. Cantab.

ADMINISTRATOR OF ANÆSTHETICS TO CHARING CROSS HOSPITAL AND THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN ; ASSISTANT ANÆSTHETIST TO THE DENTAL HOSPITAL OF LONDON.

I FEEL that some explanation is necessary in my venturing to enter upon the consideration of a subject which has been so ably and frequently ventilated during the seventeen or eighteen years which have elapsed since nitrous oxide gas was first introduced into this country as an anæsthetic agent. During this period, various modifications and suggestions have been made in its administration, and at the present day we are all aware of the fact that one method has, to a very considerable extent, superseded all others. This method, indeed, may be said to have borne the test of time, and I therefore feel that I may lay myself open to the criticism of having wasted a considerable amount of energy in studying and discussing other modes of administration, not so well known, and not so satisfactory. But it is impossible to peruse the writings of those who are familiar with this subject without observing that there have been, and still are (though to a much less extent than formerly), differences of opinion with regard to the best mode of exhibiting the anæsthetic in question. I do not say that the differences are of a radical nature, but the very fact that anæsthetists hold opposite views on this point led me to undertake a series of investigations, the results of which I trust may be found of some interest.

I propose (1) to enumerate the methods which have been sug-

gested; (2) to give the results of experiments which I have made with reference to some of these methods; (3) to state the conclusions which may be drawn from these results; and (4) to consider whether it is desirable to make any modification or alteration in the methods of administration in use at the present day.

1. In the first place I shall briefly relate what has been done in the direction to which I have referred. In the infancy of gas administration the mouthpiece employed for the inhalation was very differently constructed to the facepiece with which we are now so familiar. It consisted of a wooden tube, furnished with valves to prevent the re-inhalation of the gas. This tube was grasped by the lips of the patient, the nostrils being forcibly held by an assistant. By means of this simple contrivance nitrous oxide was inhaled. It was not long, however, before evidence was forthcoming that pure gas and the rigid exclusion of air were foremost amongst the essentials for the induction of a satisfactory form of narcosis. Soon after the introduction of nitrous oxide as an anæsthetic, Clover invented a facepiece which covered the nose as well as the mouth, and which was constructed so as to accurately adapt itself to the face of the patient. Nitrous oxide being at that time much more expensive than at the present day, economy in its administration next became a subject for consideration, and hence we find Coleman suggesting and practising an economical mode of administering the gas. "Believing that nitrous oxide underwent no change when absorbed into the blood, it occurred to him that the gas might be breathed over and over again, if means were provided for removing from it the carbonic acid which would be exhaled with it from the lungs. For this purpose, quicklime slightly slacked in water was selected, over which the gas should pass to and fro to a small bag when respired. The result was that it was found to answer quite as well as when the gas was respired only once, and with a saving of from two-thirds to four-fifths of its quantity. Were it not for the fact that the lungs cannot be emptied at a forced expiration, the amount of gas each individual would consume would be very trifling indeed, namely, little more than a quantity sufficient to saturate the blood." Clover economised the gas by another method, which is still frequently adopted; I refer to the employment of a supplemental bag, and I cannot do better than quote the words of the inventor. "When a patient breathes in a rapid and forcible manner, to prevent any air from being admitted by the falling of

TABLE I.

METHOD OF ADMINISTRATION.		Cases observed.	Percentage of non-successful cases. (See Note.)	Average number of expirations allowed to escape (extrinsic respiration) before to and fro breathing (intrinsic respiration) was permitted.	Average total number of respirations required to induce anaesthesia (in successful cases only).	
Reversible facepiece arranged for <i>intrinsic respiration</i> , and communicating by two-way stopcock with a two-gallon bag previously filled with nitrous oxide gas. Patient allowed to breathe the gas over and over again. (The above applies to Methods 1 and 2.)	<i>Method 1.</i> —No absorbent for CO	36	11.1	—	44	2
	<i>Method 2.</i> —A cylinder containing india rubber sponge soaked in strong caustic potash solution was interposed between two-way stopcock and bag in order to absorb the CO ₂ produced during the to and fro inhalation of the two gallons of gas.	36	8.3	—	40	2
Reversible facepiece arranged for <i>extrinsic respiration</i> : some expirations allowed to escape by expiratory valve before intrinsic respiration of a limited volume of nitrous oxide gas took place: in this way the air passages were washed out, as it were, to a considerable extent with gas before intrinsic respiration commenced. (The above applies to Methods 3, 4, 5, and 6.)	<i>Method 3.</i> —Two gallons of gas employed altogether: some of this was allowed for extrinsic, the remainder for intrinsic respiration. No absorbent for CO ₂ .	108	3.7	6.5	45	2
	<i>Method 4.</i> —Same as Method 3, but potash cylinder interposed, to absorb CO ₂ produced during intrinsic respiration.	11	?	7	54	2
	<i>Method 5.</i> —Three and a half gallons of gas employed: in other respects the same as Method 3.	36	5.5	11.5	42	3.5
	<i>Method 6.</i> —Gas inhaled from a gasometer (extrinsic respiration) till anaesthesia commences: then one gallon and a quarter of fresh gas breathed to and fro till perfect anaesthesia ensues.	100	0	13.7	33.7	3.5 (average)
	<i>Method 7.</i> —Ordinary method; but no supplemental bag used: extrinsic respiration till complete anaesthesia ensues.	100	2	—	29.2	†6.9

† Average number of gallons per patient in 300 consecutive cases at the National Dental Hospital.

NOTE ON ABOVE TABLE.—All cases mentioned in the table were accurately observed, and records of them were made at the time. The second column of figures is not to be taken as indicating anything more than the actual results in the cases observed; with a larger number of cases the figures would doubtless have been different. It is obvious from several considerations that this column of figures is worthless, except as showing that the first three or four methods contrast very unfavourably with the others. A case was taken to be successful if the patient felt no pain.

the cheeks, a supplemental bag, holding about two hundred inches, was connected by a stopcock to the facepiece. As long as the patient breathes calmly, the supplemental bag should be empty, but when he begins to pant, the stopcock should be opened. The gas received into the bag is so readily yielded during inspiration, that there is not any air sucked in under the facepiece. When the breathing has become so calm as scarcely to raise the expiratory valve, the supplemental bag should be compressed at every fifth or sixth inspiration, and allowed to refill with fresh gas. By this means the gas will be sufficiently free from carbonic acid to allow its elimination from the lungs." The supplemental bag necessarily economises gas in addition to its possessing the above-mentioned advantages of preventing the admission of air. Its use, however, is by no means general, whilst the purification of the expired gas by Coleman's method has fallen into desuetude. The employment of as much fresh gas as can with safety be inhaled by the patient has been found by experience to produce good results, and this method is very generally adopted. The gas is usually either yielded by a gasometer or bag, into which it is allowed to rush from a gas bottle. I may here refer to another mode of giving the gas—one which, I believe, was practised in the earlier days of gas administration. I mean the plan by which *anæsthesia* (which is frequently imperfect) is induced by the inhalation of a limited volume of gas over and over again. Clover said with regard to Coleman's method of purifying the gas: "I have had no reason to think that any harm results from the small amount of carbonic acid breathed in using my apparatus; but Mr. Coleman has certainly obviated one great objection to the use of a simple bag, in and out of which the patient is made to breathe without any exit for the respired air." These words point to such a method as that I have mentioned having been adopted. Its drawbacks will be discussed presently. I think I need do no more than allude to the mode of giving nitrous oxide and oxygen together under a greater pressure than that of the atmosphere. This plan, which is advocated by M. Paul Bert, is carried out by ingenious and somewhat complicated apparatus, the most important portion of which consists of an air-tight chamber in which the operation is performed. The outlay necessary for the administration of nitrous oxide by this method would, I think, militate against the reception of such a plan into general use.

2. Without wishing to depreciate the advantages of the usual mode of gas administration, I desired to make some experiments with the object of determining whether such advantages were peculiar to that method. The apparatus commonly in use is essentially the same as that introduced by Clover in 1868, and I need not describe it. My observations have been made upon seven different methods, including the above, and I have tabulated the results for purposes of comparison. For the sake of brevity in description, I have ventured to use the terms "extrinsic" and "intrinsic" as applied to gas inhalation. By the former term is meant the inspiration and immediate expiration of the gas into the surrounding atmosphere—that is to say, the gas is not re-breathed. By the latter term is meant the breathing over and over again of a limited volume of nitrous oxide. The extrinsic form of respiration is that which is most frequently adopted in the administration of the gas; but when the supplemental bag is used, a certain number of intrinsic respirations are allowed to take place. In most of the following methods extrinsic respiration preceded intrinsic—that is to say, the lungs were first of all cleared to some extent of residual air before to-and-fro (intrinsic) respiration was permitted. The change from extrinsic to intrinsic respiration was effected by means of the "reversible" facepiece, which I described fully in the *Lancet* of May 9th, 1885.

As this form of facepiece was employed in all of the methods mentioned in Table I., I will here briefly describe it, in order that its action may be borne in mind. It is furnished with two valves an inspiratory valve (I V), and an expiratory valve (E V). The inspiratory valve (I V) is mounted upon the sliding plate (S P), which can be moved up and down by the rod (R) which is attached to it. When the plate (S P) is raised as in the woodcut, the valve (I V) is in contact with the orifice of the tube coming from the two-way stop-cock (T), and gas rushes past it during inspiration, but not during expiration. When, however, the plate is pushed down, the valve (I V) is also displaced, and gas can pass backwards and forwards through the orifice previously guarded by the valve (I V). The expiratory valve (E V) is situated upon the upper part of the facepiece. When the rod (R) is raised as in the woodcut, the valve (E V) is capable of acting during expiration; when, however, the rod (R) is depressed, the circular damper (D) is pushed down upon the valve (E V), and the latter is rendered inactive. It will therefore be seen that when the rod

(R) is raised, both valves are capable of acting ; when, however, (R) is depressed, all valve action is suddenly abolished, and gas can only pass in and out of the orifice previously guarded by the

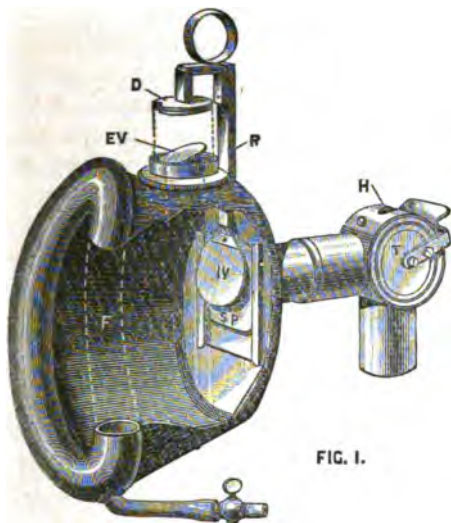


FIG. I.

valve (I V), the rod (R) which necessarily comes over the orifice offering practically no obstruction to the passage of the gas.

(To be continued.)

HOSPITAL REPORTS AND CASES IN PRACTICE.

A Case of Hæmorrhage.

By JAMES SMITH TURNER, M.R.C.S., L.D.S.Eng.

A CONTEMPORARY journal has published the notes of a case of hæmorrhage following the extraction of a tooth, which despite the most skilful and careful surgical treatment terminated fatally eight days after the operation. The perusal of this case recalled to my recollection one that occurred in my own practice three years ago, the details of which may be of value to the readers of the Association Journal. My own case was similar to the one alluded to in many respects, but differed in this, that it did not terminate fatally. It will be as well before describing the course of treatment that I

adopted, to enumerate briefly the principal points of the more recent case.

A young man of twenty-two, who was an in-patient of St. George's Hospital for synovitis, was attacked with toothache. On the 28th of November a lower molar tooth was extracted without difficulty. Some time after the operation, hæmorrhage reappeared and the socket was plugged. Two days later the hæmorrhage was still profuse, the cavity was plugged with beeswax, and the patient ordered ergot, perchloride of iron and oil of turpentine without effect. The next day matico leaves and the actual cautery were resorted to, and an attempt was made to plug the socket with a piece of wood. Later on the anterior wall of alveolus was broken away, and perchloride of iron inserted in the socket with a compress of cork. Ruspini's styptic was then employed with temporary success. Some hours later, however, the bleeding recommenced, operative measures were resorted to, the lower jaw was cut through and the inferior dental canal plugged on each side with wool. Shortly after the operation, a fresh hæmorrhage set in from the wound. This was once more controlled for a time by Ruspini's styptic. In the evening of that same day the hæmorrhage recurred and the patient expired. The father of this patient had succumbed to an attack of epistaxis, and he had himself on two previous occasions nearly bled to death. Everything was done in this case that ingenuity could devise without effect, but as hæmophilia may be productive of such terrible consequences, I feel sure that the readers of this journal will be interested to read the account of a case in which prophylactic treatment proved successful.

Some years ago a young gentleman, aged 27, consulted me with regard to the removal of a lower molar tooth. He placed me in possession of certain facts that made me regard the operation with no little anxiety. He had had several teeth removed previously, and on each occasion had been brought very near to death's door by hæmorrhage. His hæmorrhagic diathesis was so indisputable that he made deliberate arrangements before the extraction, with the view of obtaining every possible assistance. He took lodgings close to my house, and desired me to be prepared to attend if necessary, with further professional assistance. In all the previous instances the secondary hæmorrhage had come on about twenty-four hours after the extraction. Determined not to omit any precaution, I put him on a course of tincture of ergot and sul-

phuric acid for a week previous to the operation. I extracted the tooth and twenty-four hours afterwards secondary hæmorrhage set in, but it was of so slight and unimportant a character, as not to give rise to any anxiety on the part of the patient and passed off without any further ill effects.

I feel sure that the suggestion contained in these notes will not be without value to the profession.

REVIEWS AND NOTICES OF BOOKS.

TRANSACTIONS OF THE AMERICAN DENTAL ASSOCIATION, 1885.

WE may at once say that the volume contains several very thoughtful papers, well worthy of careful perusal. We note that there are a few more than two hundred members; and in the formal business transacted we observe that the sections of Anatomy, of Pathology and Therapeutics, and of Physiology, are each authorised to spend the sum of 200 dollars, to be expended at their discretion in the encouragement of original investigation. The volume opens with a paper upon the Earthy Phosphates, by Dr. W. J. Barrett, who takes the view that the administration of these salts to a mother during pregnancy, or to a child, has been clinically found to be of no use, and that this might have been inferred *a priori*, because the animal frame is not able to assimilate directly things from the inorganic world, but requires the intervention of plants.

The matter is, however, hardly to be so simply disposed of; without regarding it as at all probable that the phosphates administered are directly used for the manufacture of teeth or bones, and fully admitting that it is exceedingly improbable that in such cases the organism fails to be able to get all the phosphates required from its ordinary food, in which they abound, yet we think that Dr. Barrett pushes his physiological argument rather far. An anæmic girl gets daily an obvious advantage from the free administration of iron salts, in quantities enormously greater than her necessities for blood-making purposes, though exactly how she gets that advantage we do not know; we do know, however, that she does not get the same advantage from small doses, and so we do not consider Dr. Barrett's argument a convincing one. However, with his conclusion we quite agree.

The next paper is by Dr. Atkinson, who mounts his old hobby-horse of Nomenclature and Terminology, and is as hopelessly unintelligible as ever. It is not for us to endeavour to fathom Dr. Atkinson : in the discussion upon Dr. Barrett's paper he speaks twice, intelligently and intelligibly, and he winds up the discussion, so that it is on the very next page of the Transactions that he relapses into his old ways.

Upon Operative Dentistry there is no paper, but a discussion in which bridge work, the Herbst method of filling, and sundry other points were touched upon : the Herbst method found some warm supporters, but the balance of opinion amongst the speakers seemed against it, whilst we note that matrices are coming into greater favour.

Dr. Frank Abbott contributes a paper upon some pathological conditions of the enamel, which would be hardly intelligible without the figures ; he points out that near to the neck of the tooth enamel prisms may be found which are nearly parallel with the surface of the tooth, instead of being perpendicular to it, which fact may have some practical bearing in the preparation of cavities for filling. He finds also that pigmentation is very often associated with a curly condition of the enamel rods, and with the occurrence of interspaces wider than usual.

He states that the pigmentation is in the basis substance of the enamel rods, and that pigmented enamel will often stain in an ammoniacal carmine solution, which healthy enamel will not ; and under the term "granulation" of enamel describes the occurrence of dilatations of the interspaces, which he, as an undoubting follower of Heitzman and Bödecker, believes to be filled with living matter.

Next follows a paper by Dr. L. C. Ingersoll, maintaining the duality of the alveolo-dental membrane ; as we propose to devote a separate notice to this paper with its argument, with which we do not concur, we will merely mention it here. Dr. Harlan, as Chairman of the Section of Dental Pathology, mentions that Actinomycosis in the human subject has been recognized by at least two trembling practitioners, but that their professional brethren failed to discern more than ordinary alveolar abscess.

He recommends the stronger tincture of Cannabis Indica as being vastly more efficacious as an obtunder of sensitive dentine and of the pulp than any form of Cocaine ; he finds Cannabin less efficacious than the tincture or the extract ; and he finds

it also very valuable as an application to the gums prior to the adjustment of a clamp or a ligature.

Resorcin and Terebene are spoken of as valuable antiseptics, such activity as eucalyptus oil possesses being perhaps due to the presence in it of the latter.

Pyorrhoea alveolaris is treated of by Dr. Patterson, who holds that it is catarrhal, and that careful search will reveal that its subjects are suffering from catarrh of the nasal or pharyngeal mucous membrane likewise; he speaks of the calcareous deposits rightly as being a result and not the cause of the disease.

Dr. Atkinson, sobered down again since page 67, advises thus for its treatment: "When slight recession, is present, and little or no discharge perceptible, use elixir vitriol (aromatic sulphuric acid) in the little recesses; where the line of detachment is greater, and accumulations of food, microbes, soft or even hard lime deposits occupy its recesses, use aqua regia (one part to seven of water, but he does not give the sp. gravity of the acid); where the loss is still greater, and the gums dark, swollen and discharging pus, sloughs and bloody serum, then resort to caustic paste (equal parts crystallised carbolic acid and caustic potash, rubbed together without water), being nice and careful about seeing that it touches only the depth of the pockets, and their margins without flowing over on to the membrane, and specially the lining of the cheeks and lips."

In the department of mechanical dentistry, Dr. Spyer advocates the use of a reticulated surface upon vulcanite plates to increase suction; he obtains it by vulcanising upon a piece of tin foil impressed with the pattern.

For the same purpose, Dr. Ames insists that the edges of a suction plate should always reach up to and slightly displace moveable tissues, *i.e.*, those of the lips and cheeks, and of the palate.

For dies, Babbitt metal (1 part copper, 2 antimony, and 8 of tin) is strongly recommended, as is the addition of an eighth or sixth of tin to the lead for the counter dies.

So far, we have been able to speak with entire approval of nearly all that the volume contains; but it closes with a voluntary paper upon the Past, Present and Future of Dentistry, by Dr. E. Parmly Brown, the insertion of which seems to us to have been a mistake. As there are only two pages and a half of it in which to cover the ground, a certain brevity of expression, which those who

had the pleasure of meeting the author when here at the International Medical Congress may remember with possible disfavour, was needed.

Thus we read : " Putting your shoulder to the wheel makes progress. Many shoulders to the wheel make much progress. Let us all resolve that our shoulders shall do their duty." In these sentences we seem to feel a reminder of some school of thought. Is it Ollendorff, or is it Martin Farquhar Tupper? And, indeed, that poetry of thought which underlies it all, almost at times forces itself into rhythmical expression : thus we have—

" The lady of the near future will select with jealous care
The physician who guards from harm her oral case of jewels rare."

Sometimes, too, we find him a little careless of the form, like Browning—

" ' Sunlight,' ' Sunlight,'
Our cry has been, our cry should ever be,
And cursed will the dentist be who does without it,
A sickly plant, a withering stunted tree."

And yet, notwithstanding the beauties of style of which we have endeavoured to give some idea, it would seem that this paper was shelved for a whole year. " The Committee on Voluntary Essays reported, recommending that a paper by E. Parmly Brown, which was recommended to the Association at its last Annual Session, but which, from want of time, failed to be read then, be heard at some appropriate time during this session." Now, rolling it forth with that emphasis which we can imagine its author would have given to it, we find that it takes ten minutes to get through, so the Association must have had its time pretty full on that last Annual Session ; but we are glad that an " appropriate " time was at last found for it.

But then comes a pathetic paragraph (p. 20), " The special committee appointed to devise means for increasing the attendance at the meetings of the Association reported verbally through the chairman, E. Parmly Brown, that after mature deliberation they were unable to offer any practicable suggestions, and asked to be discharged." Poor Dr. Parmly Brown, he piped to them and they would not dance, and he can offer no suggestion to make them do so. But we can : rigorously refuse to read or publish papers which only serve to call down ridicule upon the Association's Transactions.

THE SURGICAL DISEASES OF CHILDREN ; by EDMUND OWEN, M.B., F.R.C.S., Surgeon to St. Mary's Hospital and the Hospital for Sick Children, Member of the Board of Examiners Royal College of Surgeons, &c., &c. London, Cassell & Co.

To the admirable series of monographs—clinical manuals—for which the profession is indebted to the enterprise of Messrs. Cassell, and of which several volumes have been reviewed in the Journal, Mr. Owen's work is the latest addition ; and it does not, to say the least, fall below the high level of merit which has been attained by preceding volumes. Wise judgment has been exercised by the publishers in their selection of authors, and it would be a good thing for the medical world in general and for the student in particular if no manual could be written and published unless as in the present case upon invitation from competent authority. For the treatment of the subject of Mr. Owen's work no more fitting exponent could be found. The author is saturated with special knowledge, bases his reasonings on the broadest foundation, and possesses that power of lucid exposition which, as we have so often insisted, is above all things necessary in the medical and scientific writer. If there be any fault to be found with Mr. Owen it must be on the grounds of his excessive modesty ; his experience and his work entitle him to speak with authority, yet he is somewhat apologetic in introducing his book.

Special treatises like that before us are, at the present day, necessary to the conscientious student not less than to the practitioner. No single work on surgery, at least no work of a single author, can do full justice to the vast subject in all its details ; or at any rate the author has not yet appeared capable of producing a truly encyclopædic work on surgery ; therefore the student who wishes to honestly qualify himself for the work of his profession, and the practitioner who wishes to keep himself abreast of current knowledge must, of necessity, rely largely upon monographs such as we are now noticing. The book is of course not of so much importance to the dentist as to the surgeon ; but even the dentist will find many subjects lucidly expounded in which he is deeply interested. A large proportion of our students are, however, preparing for full surgical qualification, and to these as well as to the practitioner we can in the strongest terms recommend Mr. Owen's book ; it is complete, it is brief, and it is clear. The artistic and mechanical excellence of the volumes of this series of

manuals has, on previous occasions, had our warm praise, and the work before us deserves as much; the illustrations, type, and general finish, leaving really nothing to be desired.

MINOR NOTICES AND CRITICAL ABSTRACTS.

The Appointment of a Dental Surgeon to the Radcliffe Infirmary.

At the Quarterly General Court of Governors, held at the Radcliff Infirmary, Oxford, under the presidency of the treasurer (the Master of Univ. Coll.) a point was raised and discussed that has an immediate reference to our profession, we therefore quote the debate at length, and shall express our own views upon the several points raised in our next issue.

DENTAL SURGEON.

Mr. SYMONDS proposed:—" (1) that a dental surgeon be added to the establishment of the Infirmary; (2), that the appointment be placed in the hands of the Electoral Committee; and (3), that in the event of their choice falling upon a gentleman duly qualified according to the rules, but not otherwise, he shall become a member of the staff of the Infirmary." He remarked that the appointment of a dental surgeon he believed was agreed to be by everyone a most desirable thing for the good of the suffering poor generally. The appointment should be considered under the several heads for which it was of use. Firstly, the most practical way in which it came before them was that during the year there were on an average 365 teeth removed, and it was advisable that the most skilful method and recent appliances be employed with the result, obviously, of the least suffering to the patient. Secondly, a certain number of teeth might be saved by stopping, which previously had been unnecessarily removed. Thirdly, there were a few surgical diseases of the jaws from time to time in the hospital which might with advantage have the advice of a skilled dentist. Fourthly, as there was every possibility of a medical school being connected with the Infirmary, pupils should have good instruction in this branch of their profession. Fifthly, that as medical men, knowing how much more they could do by preventing disease than by directly curing them, and how many were materially caused by defective mastication, they might prevent these diseases by giving the poor patients artificial powers or enabling them to retain those natural to them. Mr. GEO. WARD seconded the motion, and did not see that any harm could be done by the addition of another member to medical staff. The Rev. J. DODD inquired whether this matter

had been brought before the medical staff and the committee of management, and whether the gentleman appointed was to be a paid official? The CHAIRMAN said the first question could be answered by the medical gentlemen in the room. As to the second it was a private motion, and regarding the third there was not the least idea of the gentleman being a paid official. Mr. WINKFIELD felt that it would be desirable to have a dental surgeon, but the delicate part of the question was whether he should have the full privilege of a member of the staff. The question was a big one and required consideration. In London hospitals it was the custom to have on the staff a dental surgeon, but in country hospitals the practice varied. In some of them the dentist was a member of the staff, and in others he was not. He did not feel that it would be fair to put on the same footing as the members of the staff, who gave considerable time to the place, and had much responsibility, a gentleman who would be only asked to come there a short time once or twice a week, and do work which could hardly be compared with that of the ordinary physician and surgeon. Mr. THORNHILL considered that the question should be formally brought before the committee of management who could report to the next Court whether it was or was not expedient to appoint a dental surgeon, and on what terms and conditions. He moved an amendment to that effect. The Rev. J. DODD seconded. The CHAIRMAN said the matter had already been carefully talked over by the Committee, who could not arrive at any conclusion. Mr. GEO. WARD said he was Chairman of the Committee when the matter was discussed. The Committee were equally divided, and he did not give a casting vote, leaving it to the governors to settle the question. Dr. DARBISHIRE said the point they had to consider was whether they wanted a dentist. He agreed with Mr. Winkfield that it would not be fair to put a gentleman, who would be practically an out-patient surgeon, without beds in the hospital, on the same level as the other members of the staff. Canon SLATTER feared that if a dentist were appointed, a vast number of persons would be attracted there who had no business to be relieved. On the other hand, he believed there were some cases in which persons had very serious dental maladies, which could not be taken in hand unless they became in-patients of some house. Dr. COLLIER said the question to his mind was whether a dentist was really necessary in a provincial town of the size of Oxford. Supposing they did make up their minds to make the appointment, then to have the work done properly they must appoint not one, but two or three men. He considered that this was the kind of work which a provident dispensary should take up. Mr. MORGAN agreed with the other members of the staff, and thought it would be behaving rather unhandsomely to them to appoint a gentleman who had no stake in the house, and give him

to surmount, especially when applied to the mouth and the teeth. A great number of people think that cleaning the teeth wears out the enamel and irritates the gums, and to escape this double imaginary evil, they take refuge in a really mischievous neglect.

It must be impressed upon parents that caries of the milk teeth does not necessitate their loss, and that while a child is growing, a special importance is attached to the organs that comminute its food. The teeth are for use and not for show. They anticipate the work of the stomach to a certain extent, and the more thoroughly they do so the less strain is put on that organ.

If from any cause mastication is imperfectly performed, whether because the teeth are few or because they are useless, the stomach is overworked, nutrition interfered with, and the individual suffers.

The healthier a child, the more essential it is that his masticatory system should be in perfect order. Not only are the milk teeth indispensable to the health of childhood, and therefore to be preserved with the utmost care, but their rash removal may inflict serious injuries on the germs of their permanent successors. Cleaning the teeth should be as customary a part of the day's work as washing the hands and face. It should be done after every meal, for nothing is more dangerous than the continued presence of particles of food between the teeth. Cleanliness and care would in the majority of cases prevent many evils that the greatest skill may find a difficulty in curing.

DR. VAN MARTER, of Rome, has published an interesting account of the evidences discovered by him of prehistoric dentistry in Italy. In the museum of Cornelo Tarquinius, a city on the Mediterranean coast, he found two specimens of ancient dentistry, which the mayor of that city certifies were found upon the first opening of the buried Etruscan tombs, and Professor Heilbig gives assurance that these were virgin tombs, dating back four or five centuries before the Christian era. In one of the specimens the two superior central incisors are bound by a band of very soft gold to the teeth on either side; the artificial teeth are well carved, evidently from the tooth of some large animal. One other artificial tooth was held by the same band, but it is lost. Dr. Van Marter has in his own possession a skull in which the first upper molar on the right side is missing, and which shows plain marks of an alveolar abscess, proving conclusively toothache among the Etruscans.—*N. Y. Tribune*.

REPORTS OF SOCIETIES AND OTHER MEETINGS.

The Odontological Society of Great Britain.

THE annual general meeting of this Society was held at 40, Leicester Square, on Monday, the 11th ult., Mr. C. SPENCE BATE, F.R.S., President, in the chair.

Mr. S. J. HUTCHINSON related the case of a gentleman who came to him suffering from almost complete closure of the jaws caused by an impacted wisdom tooth. He could only separate his teeth about a quarter of an inch, owing to contraction of the left masseter together with infiltration and induration of the surrounding tissues, and was of course quite unable to eat. Gas having been administered, the jaws were separated to some extent by means of a screw gag, and it was found that the left lower wisdom tooth was completely buried under the ascending ramus of the jaw; it was also decayed and had an abscess at the root. In order to get access to it Mr. Hutchinson was obliged to extract the adjacent second molar, and the patient was then told to come again to have the operation completed. At the next visit gas was again administered and an attempt made to remove the wisdom tooth, but without success. Mr. Hutchinson then arranged to visit the patient at his own house, where the tooth was removed under chloroform, though not without difficulty. Mr. Hutchinson thought it was better, if chloroform had to be administered, to do this at the patient's house rather than at that of the practitioner, since it could be given with the patient undressed and in a recumbent position; he was not fatigued and usually less excited, whilst after the operation he could lie quietly and recover himself at his leisure.

A remarkable feature in this case was the length of time the contraction persisted after the operation. Three weeks afterwards the patient could only separate the jaws three quarters of an inch, and he had then, nearly three months after the operation, only just regained the free use of them.

Mr. CHARTERS WHITE said that about two years ago he had been called upon to treat a very similar case. The patient could not separate his teeth more than a quarter of an inch, but Mr. White managed to introduce some narrow curved forceps and to raise the tooth out of its socket, and at the next visit, the swelling having somewhat subsided, he succeeded with the same forceps in removing it altogether.

Mr. R. H. WOODHOUSE said he believed that the difficulty often met with in extracting impacted wisdom teeth, arose from overlooking the fact that these teeth when misplaced were almost invariably inclined to the inner side of the ramus. He found that by inserting an elevator on the outer side and making a

continuous movement inwards he could dislodge them without any trouble.

Mr. ARTHUR UNDERWOOD described the method which he had adopted for staining microscopic sections of the teeth with chloride of gold. He had been led to make experiments in this direction when trying to verify the statements of Dr. Bodecker with regard to the presence of protoplasm between the fibres of the enamel. Dr. Bodecker described his method of preparing his specimens as follows: He decalcified the teeth in chromic acid, cut sections, and stained these by placing them in a solution of chloride of gold, and exposing them to sunlight for twenty-four hours or more. Mr. Underwood tried this method, but with very unsatisfactory results. Moreover it was asserted by all the authorities on the subject that only perfectly fresh specimens could be stained with chloride of gold. However Mr. Underwood found, as the result of various experiments, that any section whether fresh or not, could be stained with this material, and the following was the method which he had finally adopted. He first immersed the section in a solution of carbonate of soda for an hour, then placed it in a solution of chloride of gold, *which must be neutral*, and left it in the dark for another hour. The section was then again placed in the carbonate of soda solution for a few minutes, then transferred to a one per cent. solution of formic acid and kept warm over a water bath for about an hour and a half. Lastly, it should be mounted in glycerine jelly—*not* in Canada balsam. Sections which had been decalcified by chromic acid took longer to stain than those which were fresh, but the whole process only occupied three or four hours, instead of at least twenty-four, as in the old method, and the results would be found far more satisfactory.

Dr. GEORGE FIELD submitted to the Society some samples of Dennison's absorbent cotton, an American preparation, which he had been using in his practice, and of which he reported very favourably. He suggested a use for cocaine, which might be new to some of those present, viz., to render painless the application of the rubber dam in cases where it was necessary to force the rubber and ligatures between the teeth and gums. He first thoroughly dried the cavities and the adjacent gum margins; then, with a wedge-shaped piece of wood, he applied crystals of cocaine between the teeth and gums, using a napkin as a protection against moisture. Then he got ready the rubber ligatures, weights, &c., and when all was at hand he made a second application of the cocaine, and, if the application had been properly made, it would be found that the ligatures could be forced well under the gums with but little, if any, pain to the patient, though without the cocaine the operation was usually exceedingly painful.

Mr. STORER BENNETT showed a Roman lower jaw, found at Bath and presented to the Museum by Mr. Forsyth. He compared it with a good modern specimen and pointed out several differences, especially the greater distance between the condyles and the large size of the ascending rami. The teeth were much worn, but there were no signs of caries, whilst, contrary to what might have been expected in so well developed a jaw, the wisdom teeth were small.

Dr. GEORGE CUNNINGHAM showed some specimens illustrating the difficulties and disappointments of continuous gum work. He had for some time been very successful with this kind of work, but of late, though he was using the same furnace, and all the details of the process were carried out in the same way and with the same amount of care, several cases in succession had turned out badly, the enamel on the outside of the plate being unequally fused and cracked. The only difference between the good plates and the bad was in the enamel used, though this also had been obtained from the same makers, but that used for the successful cases had been on hand for a long time, whilst a fresh supply had been used for the failures. He should be very glad if any of those present could tell him if their experience had been at all similar, or could explain the cause of his non-success. He wished also to call the attention of the Society to Dr. Land's suction chamber, and handed round a denture made according to his pattern. He himself had for some time abandoned the use of suction chambers altogether, and used the Fulsome ridge, but lately he had been induced to make some comparisons and had found Dr. Land's method give such good results that he would recommend others to give it a trial.

Dr. WALKER said he had experienced the same trouble in firing continuous gum cases, and believed it to be due to a deficient supply of gas. The supply pipe should not be less than three quarters of an inch in diameter, inside measurement, the flame should pass all round the mufflers and should project two inches out of the opening in the top of the furnace, when the bellows were not working. The failure was due to the unequal temperature of different parts of the furnace.

Mr. D. HEPBURN called attention to the use of gum tragacanth for improving the adhesion of suction plates when first inserted. All practitioners were aware of the difficulty often met with in getting suction plates to adhere when first applied. Even with the most perfect model, the most accurately adjusted plate would frequently at first show no tendency to adhere, and the patient might have to undergo several days of discomfort before adhesion was established, if he did not, in the meantime, entirely lose confidence in the plate. He had tried to overcome this difficulty by using various substances of an adhesive nature but without success

until he was induced to try gum tragacanth. He kept the powdered gum in a wide-mouthed bottle with a piece of muslin stretched over the top, and before inserting the plate in the mouth he sprinkled it with a thick layer of the powder. In obstinate cases the patients could themselves apply the powder daily. By this means the most refractory plates could be made to adhere and frequently could not be dislodged without a considerable effort.

The Scrutators of the Ballot (Messrs. Bartlett and Hern) reported that the following list of officers, recommended by the Council, had been unanimously elected. *President*, Mr. T. Charters White; *Vice-Presidents* (resident), Messrs. George Gregson, Henry Sewill, S. J. Hutchinson; (non-resident), Messrs. Richard White (Norwich), Andrew Wilson (Edinburgh), Richard Rogers (Cheltenham); *Treasurer*, Mr. James Parkinson; *Librarian*, Mr. Felix Weiss; *Curator*, Mr. Storer Bennett; *Editor of the Transactions*, Mr. Frederick Canton; *Honorary Secretaries*, Messrs. David Hepburn (Council), Robert H. Woodhouse (Society), Willoughby Weiss (for Foreign Correspondence); *Councillors* (resident), Messrs. Wm. St. George Elliot, Augustus Winterbottom, Samuel Cartwright, Morton A. Smale, J. Howard Mummery, Arthur S. Underwood, C. J. Boyd Wallis, E. G. Betts, J. F. Corbett; (non-resident), Messrs. W. E. Harding (Shrewsbury), Robert Reid (Edinburgh), J. R. Brownlie (Glasgow), J. H. Whatford (Eastbourne), F. H. Balkwill (Plymouth), George Brunton (Leeds).

The PRESIDENT then called upon the Treasurer for his annual report.

Mr. PARKINSON said his report was satisfactory except in one respect, viz., that there had again been, for the third year in succession, a slight falling off in the numerical strength of the Society. The total income during the past year had been £513 13s. 5d., and the expenditure £426 19s. 10d., leaving a balance in hand of £86 13s. 7d. The Society possessed a reserve fund amounting to £2,580. Twelve new members had been elected during the year, but the losses by deaths and resignations amounted to fifteen. The falling off was therefore but slight, still he should be glad to see joining the Society a larger proportion of the young men who were now entering the profession, and he hoped the members would do their best to make the advantages of the Society known to all who were eligible.

Mr. WEISS reported that about a hundred volumes had been added to the library during the year, and that a larger number had been borrowed than in any previous year. A new catalogue was in preparation and would probably be issued during the present session.

Mr. HUTCHINSON reported that the past year had been one of great activity in the matter of donations to the Museum. Nearly a hundred specimens had been added, some of them of

the greatest interest, whilst in the three years previous only 125 had been added. He regretted that the very limited space allotted to the Museum prevented a satisfactory exhibition of the treasures it contained.

The President then proceeded to deliver his Valedictory Address.

After briefly referring to his resignation of the position which he had held during the past year, and to the good which the Society had done in bringing members of the profession together in the bonds of friendship, Mr. Spence Bate went on to speak of one of the greatest discouragements which the profession had to contend against, viz., the general want of appreciation of the value of the dental organs. A strong illustration of this was exhibited in the order issued by the Board of Admiralty to its medical officers, to the effect that no lad should be allowed to enter the navy who had lost more than five teeth. A boy usually entered the service at about fourteen years of age, and at that time, even though the teeth might be sound, they were in a considerable proportion of cases crowded and compressed, so that the loss of two teeth on each side of both upper and lower jaws might be very desirable, and the larger and finer the teeth, the more intense might be the pressure and the more necessary the relief. In such cases, the four first molars might frequently be removed with great benefit. Should the teeth anterior to these be irregular, the first bicuspid might be extracted, and in exceptional cases the lateral incisors also, and yet the dental arch be retained in a state of even regularity.

Thus eight, and occasionally twelve, teeth might be removed from the mouth and the patient gain by the loss, whilst on the other hand, four teeth only might be lost and the set made weak as a masticating organ. For instance, the loss of the two first molars from the lower jaw and the two second from the upper, or the four molars from either jaw, would not exclude a lad from entering Her Majesty's navy, while he who lost two lateral incisors and four bicuspid, that is, six teeth, would be excluded. But in the first case the lad would have a feeble organ of mastication, whereas he who lost the six would have an improved apparatus. Thus this stringent rule of the Admiralty excluded many good lads from serving in the navy, and allowed their places to be taken by others with less efficient dentures.

That the lateral pressure of large and well-formed teeth in jaws scarcely large enough to hold them would induce decay, was a well understood fact. It was also well known that lateral compression was frequently the cause of obscure pains in the teeth themselves, and of reflex neuralgic troubles. He believed that lateral compression was also the predisposing cause of pyorrhœa alveolaris, a disease which had of late years attracted a great deal

of attention in the profession, but which still required a considerable amount of observation and study before a conclusive theory of its true nature and origin could be arrived at. He would ask his audience to accept for the present the conclusiveness of his observations on this point, and if their experience hitherto did not dispose them to accept his conclusions at once, that they would defer their judgment until they had had time to study the question.

Mr. Bate then related a case confirmatory of his view, in which there was first evident over-crowding consequent on the eruption of the wisdom teeth. He urged the extraction of these teeth, but his advice was disregarded, and later several sound teeth were lost from wasting of the alveoli, the teeth thus lost being precisely those which had suffered most from lateral pressure.

At present the treatment of this disease was empirical only ; a correct method of treatment could only be arrived at after a knowledge of its pathology had been obtained. He believed the deposit of tartar to be secondary, following the separation of the vascular attachment and never deposited on living tissue, and the removal of this deposit, though it might get rid of one cause of irritation, did not remove the source of the disease. Its treatment, if his view of its etiology was correct, must be preventive rather than curative, and with this object it was important that undue crowding of the teeth should not be permitted.

And if in the army or navy or in any other position in life, it was important that none should attain a footing in it without a good set of teeth, surely it was still more important that such individuals should have their teeth kept under regular supervision. If a boy entered the navy at fourteen years of age with a model denture, it by no means followed that he would retain this if the teeth were treated with neglect. It was therefore most desirable that the medical staff of that service should have some knowledge of these organs, and that it should be their duty to attend to them. And it might certainly be supposed that on board a ship of war, carrying from five hundred to a thousand men, a knowledge of dentistry would be of greater practical value than a knowledge of midwifery ; yet whilst the latter was compulsory, the former was ignored.

Mr. Bate concluded his address with some remarks on the good work which the Society had done and was doing, and some suggestions for making its meetings still more useful. While fully admitting their practical and scientific value, he thought that in the direction of social intercourse something more might be done. A member, especially if he came from a distance, though he could not fail to benefit by his attendance at the Society's meetings, had but little opportunity of becoming personally acquainted with other members. And he suggested that once in the year, during the London season, the Society should give a *conversazione* at which members would have free scope for personal intercourse.

He believed that this would be very popular with country practitioners, and would be very likely to lead to the introduction of new members.

A vote of thanks to the retiring President, for the able and efficient manner in which he had conducted the business of the Society during his year of office, was proposed by Mr. BROWNE-MASON, of Exeter, seconded by Mr. GREGSON, and carried with applause.

Mr. SPENCE BATE having replied, Dr. WALKER proposed, and Dr. CUNNINGHAM seconded, a vote of thanks to the other officers of the Society, especially mentioning the Secretaries, and the Curator, Mr. Hutchinson. The latter had, during his five years tenure of the office, completely reorganised the Museum, and the special thanks of the Society were due to him on his retirement.

Mr. PARKINSON having responded for his colleagues and himself, the President announced the business for the next meeting and the Society adjourned.

At the meeting held on the 1st inst., Mr. CHARTERS WHITE, the newly elected President, in the chair, Mr. ARTHUR UNDERWOOD showed two girls, about eleven years of age, on whom he had performed replantation. In one case a lateral and in the other a central had been extracted on account of irregularity and immediately replaced. Both cases were very successful; there was no tenderness after forty-eight hours, and the teeth soon became firm. Fourteen months had elapsed since the operation, and the replanted teeth were quite undistinguishable from their neighbours; there was not the slightest discoloration, the sensibility to heat was precisely the same, and on examining them carefully with a strong light, there was not the slightest difference in translucency, though when this test was applied to a dead tooth a distinct cloudiness or opacity was visible. From this Mr. Underwood concluded that these teeth had living pulps, and that therefore teeth which were only removed from their sockets for a short time and replaced need not be devitalised. It was usually asserted that a replanted tooth derived its vitality solely from the re-united periosteum, and that the nervous and vascular connections could not be re-established through the apical foramen. But it was well-known that a divided nerve in any other part of the body would re-unite and its functions be re-established; so also a portion of skin if removed with its vessels and replaced would re-unite; and if this could take place in the case of other organs, why should it be impossible for the vessels and nerves of a tooth which had been extracted and replaced to re-unite?

He was not, however, an advocate of replantation, but preferred torsion whenever this would answer the purpose.

The patients were then introduced and the teeth carefully

examined by the members present, the room being darkened for the purpose of showing the effect of transmitted light. A patient with a dead tooth was also brought in for the purpose of showing the characteristic difference.

The lamp used for the examination of the teeth was supplied by Messrs. Ash and attracted a great deal of attention. The flame was surrounded by a metal chimney, from one side of which projected a glass tube curved at the further end. The light appeared to be drawn along the tube to its extremity, so that it could be directed at will upon any point in the mouth, and was powerful enough to render a tooth and even its alveolus fairly transparent, whilst at the same time there was complete absence of heat.

Mr. CHAS. TOMES said he had been told by Dr. Morrison, of St. Louis, that one of his assistants having replanted a tooth without removing the pulp, afterwards thought he had done wrong and tried to retrieve his mistake, but on drilling into the pulp cavity the pulp was found to be alive.

Mr. QUINBY said that freedom from discoloration could not be taken as a sign of a living pulp, and instanced the case of a boy, one of whose teeth was replanted by a country doctor after lying for three hours on a dusty road. This tooth remained firm and useful for six years, and kept its colour. It then began to be troublesome, and ultimately had to be extracted, when a great part of the root was found to be absorbed.

Dr. WALKER mentioned a case in which he had extracted and replanted a lateral fourteen years ago. He had seen the patient quite recently and the tooth was not to be distinguished from its neighbours as regards either colour or sensibility.

Mr. F. J. BENNETT thought that none of the tests mentioned by Mr. Underwood were conclusive, and expressed himself as decidedly sceptical as to the accuracy of the diagnosis.

Dr. HARLAN, of Chicago, showed a set of clamps designed for use when filling fractured bicuspid and molars, serving the purpose of a matrix.

Mr. STOKES showed a set of rubber dam clamps, made by Collins, which the President characterised as very ingenious and likely to be useful.

Mr. BLAND SUTTON, F.R.C.S., then read the paper of the evening on "Dental and Oral Cases in Animals."

The object of his communication was to bring under the notice of the Society a few examples of abnormalities and diseases of the teeth and mouth occurring in animals, and to offer a few remarks on some conclusions which a study of the specimens suggested.

Morbid growths in animals were not very common and were specially rare in the oral cavity, except those due to parasites. He showed, however, an interesting example of fibrous epulides in an

adult tiger. There were no less than eight of these growths connected with the gums of the lower jaw. The animal's teeth were in a very unsatisfactory condition.

He next showed the head of a lamb, which presented an abundant crop of warts on the nose, hard palate, and dorsum of the tongue. This was not an uncommon state of things in sheep which had been turned into stubble to feed, the warts being due to the constant irritation of the hard ends of the stubble, and if the sheep were removed from the stubble, the warts would disappear.

Mr. Sutton then proceeded to make some remarks on the subject of osteo-dentine. It appeared to him that the only reason for classing this material with dentine, was the bare fact that it existed as a constituent of teeth. On comparing under the microscope sections of osteo-dentine with sections of bone from inflammatory new formations, or from morbid growths such as osteo-sarcomata, he found it impossible to distinguish between them. But between bone and dentine a very wide distinction existed, dentine being a hard tissue pervaded in a regular manner by a system of tubules containing fibrils of soft material, whilst bone might be described as a hard material permeated by vascular canals, surrounded by lamellæ, containing in their midst numerous lacunæ which communicate with one another by means of canaliculi. His investigations had led him to the conclusion that osteo-dentine was the result of ossification of the connective tissue of the pulp of the teeth. In many cases this might be preceded by inflammation, but not necessarily. Osteo-dentine was, in fact, more closely allied to cementum than to dentine, from which it differed both histologically and in the manner of its development, and in his opinion should be regarded as an imperfect variety of bone, and in no sense as allied to dentine.

In conclusion, he proposed to offer a few remarks on the curved and elongated teeth of the Suidæ. All the members of the pig family exhibited this tendency to curved teeth—the boar, hippopotamus, wart-hog, Red River hog, and babirussa. The earliest curvature was seen in the dition upper canine of the boar, an intermediate condition in the wart-hog, and the most exaggerated degree in the babirussa. He showed a wild boar's tusk fifteen inches long, which had almost described a circle, the point being just about to enter the pulp cavity at the base of the tusk, and he exhibited drawings of still more remarkable specimens of the same kind preserved in the College of Surgeons' and other museums.

With reference to the cause of curving of the teeth, he called attention to the fact that when a cattle breeder wished to make the horns of a cow curl, he scrapes the inner side with a piece of glass. Mr. Sutton thought the curling of teeth might be produced in a similar manner, the concave side of the tooth being worn by

its opponent, and a curve towards the weakened side being the result. A study of these specimens showed that animals were liable to dental troubles to which man was happily a stranger, and that though the possession of teeth was both a necessity and a privilege, it had, nevertheless, numerous disadvantages.

In the course of the discussion which followed, Mr. CHAS. TOMES took exception to Mr. Sutton's proposal for the abolition of the term osteo-dentine. If not entirely free from objection, it was at all events a convenient term, especially as applied to such teeth as those of the pike, nine-tenths of which consisted of connective tissue calcification covered with a thin layer of dentine, and it was difficult to suggest a better.

Mr. STORER BENNETT pointed out, with reference to Mr. Sutton's explanation of the curving of tusks, that the teeth of rodents were curved before they left the bone or met with any attrition, and that in the case of the lower incisors the chief wear was not on the upper surface. He could not, therefore, consider the explanation satisfactory.

The PRESIDENT and Mr. F. J. BENNETT also took part in the discussion, to which Mr. Sutton replied.

The PRESIDENT then proceeded to deliver his inaugural address. He thanked the members for having placed him in the honorable position he occupied that evening. Whilst sensible of his inability to place himself on a level with the fathers of the profession in England who had in the past occupied that chair, he claimed to stand second to none in love for that special branch of surgery which they did so much to advance. But there was no need for him to sing the praises of those who founded the Society. In forming that bond of union, they had laid the foundation for the furtherance of knowledge of dental disease and for the fostering of friendships far and wide throughout the profession. The present generation were the trustees of that legacy, and it remained for them as a society to fulfil that trust by carrying on the movement they started. The records of the Society testified to the way in which that trust was being carried out, and to the watchful interest its members took in all that related to the practice of their profession. But while there was much cause for congratulation, it was to be regretted that so many abstained, through diffidence, from coming forward to assist in a more constant supply of communications bearing on topics of daily practice. He could indicate many points which needed further elucidation, and with regard to which the results of personal experience embodied in casual communications would be extremely valuable. Of late years there had been a great addition to the antiseptic remedies employed in dental surgery. Time was when creosote was almost the only agent employed for this purpose. Then an important advance was made in the use of carbolic acid,

followed by the introduction of many other remedies of the same class. Lately another antiseptic had been advocated by Mr. John Wood and appeared worthy of careful trial. Mr. Wood claimed that peroxide of hydrogen was one of the most powerful germicides known; he stated in his Bradshaw Lecture on "Antiseptics in Surgery" that "so small a proportion as one part in 2,000 would prevent putrefactive fermentation and destroy the activity and propagation of bacteria and micrococci of all kinds. It was absolutely innocuous, and free from any suspicion of local or constitutional irritation."

Another subject to which united and concentrated attention might be given was *erosion* of the teeth. It was met with in practice almost as frequently as caries, but whilst stopping was effectual to arrest caries, little could be done to check erosion. It was a disease which up to the present time had defied all our powers of observation and all the resources of treatment, and might, therefore, fitly furnish a subject for collective investigation, with the object of obtaining data for elucidating its cause and on which to ground some more successful treatment.

There were many other obscure points in dental pathology to which attention might be directed, such as the cause of the premature decay of the first permanent molars, which had become so common amongst children during the last forty years or so, and for which parents anxiously demanded an explanation. It appeared to be due to some disturbing influence during an early period of the life of the child interfering with the normal development of this particular tooth, but as the disturbing influence affected the majority of children it became very desirable to investigate its history, and if possible find out its origin.

But he would not occupy more time in suggesting subjects for investigation. Former occupants of the chair had always stretched out a warm hand of welcome to all who came forward to give the Society the benefit of their experience, and the current year should not be an exception. The society numbered amongst its members men of high educational attainments, and it was justified in expecting from them, from time to time some contribution, as the result of their thought and experience. It did not speak well for a Society when the burden of finding a supply of communications was thrown upon the Executive, and when the members were content to play the part of lay figures to make up an audience; and he sincerely trusted that the diffidence which seemed to be associated with this state of affairs might be quickly overcome, and that those who now sheltered themselves behind it would emerge to give their aid towards the further advancement of the boundaries of professional knowledge and practice.

Mr. THOS. UNDERWOOD proposed, and Mr. R. HEPBURN seconded a vote of thanks to the President for his address.

This having been carried by acclamation, was duly acknowledged by the President, who then announced that at the Meeting on March 1st, Dr. Dudley Buxton would read a paper on "the Physiological action of Nitrous Oxide." For the April Meeting, Dr. Walker had promised a communication on Continuous Gum Work, with special reference to the remarks on this subject made by Dr. Cunningham at the last meeting.

The Society then adjourned.

The Oakley Coles Testimonial.

A VERY interesting meeting took place on Thursday, the 4th inst., at the house of Sir Edwin Saunders, for the purpose of presenting to Mr. Oakley Coles a parting gift from his old colleagues and *confrères*. Many distinguished practitioners, both of General and Dental Surgery, were present, Sir Edwin Saunders (in the chair), together with the following subscribers:—Messrs. Charles Vasey, Thomas A. Rogers, James Parkinson, Alfred Slate, Julius Althaus, A. J. Woodhouse, Geo. W. Field, B. Longhurst, G. A. Ibbetson, W. T. Forsyth, S. J. Hutchinson, H. R. Bell, Robert Hepburn, Murray Davis, Robert H. Woodhouse, Arthur Mackenzie, G. H. Bailey, Arthur Underwood, Thomas Underwood, J. Hughes Hemming, Joseph Walker, James Smith Turner, William Rose, Thomas Gaddes, David Hepburn, Dr. Felix Semon, F. Canton and Ernest Hart.

A Committee had been formed to carry out the details of the presentation, consisting of Sir Edwin Saunders (Chairman), Charles Vasey, Esq. (Treasurer), Lord Alfred Paget, H. Rogers Bell, Esq., Henry Smith, Esq., Dr. Brodie Sewell, Edward Bellamy, Esq., Thomas Gaddes, Esq., and Wm. Rose, Esq. and J. Smith Turner, Esq. (Hon. Secs.).

Letters had been received from Mr. Rymer, of Croydon; Dr. Waite, of Liverpool; Mr. Campbell, of Dundee; Dr. Cunningham, of Cambridge; and a telegram from Mr. Dennant, of Brighton, regretting their unavoidable absence.

SIR EDWIN SAUNDERS opened the proceedings by very gracefully thanking those present, in the name of the Committee, for their attendance at the meeting, both as affording an opportunity to the Committee to explain what they had been able to do, and as likely to prove a pleasant memory for Mr. Coles in the future;

the cordial manner of the presentation, he said, enhanced the gift itself. Sir Edwin proceeded to explain that an ideal testimonial, though costly, should not be too much so; it should conform to the tastes, assist the pursuits, and harmonise with the daily life of the recipient—how far, then, had these conditions been fulfilled? Mr. Coles' friends were well aware of what his life had been; he had been an energetic member of his profession, a member, but not a silent one, of the Odontological Society, and if not a Past-President, it was because of a fault of which he would have purged himself in time—his youth. As a good debater he had often filled the gap suggested by the poet Cowper—

“We sometimes want the animated *No*,
To make the stream of conversation flow.”

The British Dental Association he had also served actively, both in a literary capacity and as secretary to the Benevolent Fund, and last, but not least, he had rendered good services to the National Dental Hospital and School. Moreover, Mr. Coles was not retiring from the profession to lead a life of rest or to enjoy a handsome legacy, but for very different ends and aims; of these he should speak again, but for the present he would leave the subject, and call upon the Secretary for his report.

Mr. WILLIAM ROSE then stated that Mr. Coles' friends had responded to the suggestion of the committee by subscribing a hundred pounds. In accordance with Mr. Coles' wish fifty pounds had been expended in books, book-cases, and an *escri-toire*. He also alluded to the energetic labours of the Treasurer.

Mr. VASEY expressed the pleasure it had given him to be of any service in the matter.

Mr. TURNER read the names of those gentlemen who had written to regret their inability to attend.

Sir EDWIN SAUNDERS (who was received with applause) said:—

Mr. Oakley Coles and Gentlemen,—There are few occasions in life at which we assist with more real and unalloyed pleasure than those on which we are drawn together, as we are drawn here to-day, to express our esteem and sympathy with one who has been associated with us in professional work through many long and not unfruitful years. In the present case, as Mr. Coles is about to part company with us, and to attach himself for the remainder of

his life's journey to another band of pilgrims, and as, therefore, the occasion wears somewhat of a valedictory character, we would desire to add the expression of our good wishes for the realisation of all his aspirations in the new and onerous career, of which he has, doubtless after mature consideration of all the circumstances, deliberately resolved to make choice. And, in wishing him God-speed, I will, with your concurrence, greet him in the words of the old Roman poet : *Frater, ave atque Vale*. And reluctant, as we cannot but be, that our friend, who has so long and so worthily filled no inconspicuous place in our midst, should have been led to a decision which leaves that place vacant, yet we rejoice to know that it is not from disappointment, nor from want of success, nor from failure of health, for he is still in middle life and full of mental and physical energy, but simply from a conviction that he can be more useful in his day and generation, that his intellectual aptitudes, and mental and moral idiosyncrasy will have freer play and greater scope in the sacred calling of his adoption than in the profession in which he has hitherto been so favourably known. Nor can it be regarded as by any means an unusual or violent transition, for in the middle ages the leech was to be found in the cloister, and the care of man's bodily health has never been deemed incompatible with that of his spiritual interests. Many examples of such an association of functions will readily recur to us all. More than one member of the Odontological Society, if I mistake not, combines occasional ministrations in the pulpit with the practice of his profession, and the vicar of a church in South Lambeth began life as a practitioner of Dental Surgery ; while a former Dean of the Dental Hospital has also donned the sacerdotal robe in a typical and highly popular West-end church. Moreover, not to speak of others who have risen to eminence in the Church of England, that original character the Missionary Bishop Macdougall was a member of the Royal College of Surgeons, and the late Bishop of Ripon was destined and qualified for the medical profession. But why seek to multiply precedents, for was not St. Luke himself a physician before he became an Evangelist ? There is, therefore, no incongruity in this union of secular and spiritual interests ; and, indeed, it may be questioned whether, especially in remote country districts, some knowledge of sanitary science and of the treatment of ordinary ailments might not prove a valuable addition to the more erudite and exegetical attainments of him who is the consecrated guardian of man's highest interests.

It is not for us, even if we could do so, to enquire too curiously into the hidden motives and the inner mental processes which have eventuated in this dedication to the service of the Temple on the part of our friend ; but of one thing we may feel quite certain, that it was not with a view to worldly advancement, for he could not be unaware that his resolution must involve a sacrifice of income, though not of social position. For by that law of compensation which exists throughout the economy of the world, a very much larger amount of social consideration and of social influence is, by common consent, accorded to the sacred than to any other of the learned professions. The clergyman starts in life with a *cachet* of probity and respectability by virtue of his ordination, and, while the members of other professions are individually on their probation, their position in society being finally determined by their personal merits, the priestly office and the canonical vestments seem to be an all-sufficient passport to social favour. And by a tacit understanding, very much less is demanded in the way of hospitality and other claims of society from the clergy than from any other section of the human family.

In the absence then of any such subtle analysis of motive and processes of thought, as was given to the world in that charming and fascinating work, "*Apologia pro vita sua*," of Cardinal Newman, we, knowing his geniality, his philanthropy, his active mind full of resource, full of suggestion, are entitled to conclude that he will find ample reward and satisfaction in this, the work of his choice. To solace the afflicted, to reclaim the erring and fallen and bring them again within reach of human sympathy and a sense of divine compassion, to rekindle the dying embers of an expiring faith and trust in God's mercy under some crushing defeat in life, or a heart-breaking bereavement, when the bruised and bleeding spirit seems to hunger for the balm of ghostly consolation ; to take no unimportant part in the great events of life, in conferring sanctity on the mystic and sacred bond of conjugal love, in the consecration of each new life to the Christian church, and in the consignment to its native earth of all that is mortal of our personality, these are surely worthy aims and a destiny sufficiently lofty to satisfy a noble and chastened ambition.

" His theme divine,
His office sacred, his credentials clear,
By him the violated law speaks out
Its thunders ; and by him in strains as sweet
As angels use, the Gospel whispers peace."

May you, sir, long be spared to exercise these high functions, and by your edifying example, no less than by your spiritual ministrations, to diffuse light and happiness, and to inculcate temperance, industry, contentment and loving-kindness in the sphere in which you may be placed.

It now only remains for me, on behalf of some old and warm friends and colleagues (whose names will be found inscribed on this scroll), to beg your acceptance of a writing-table and of a book-case, stored with the lore of past generations as well as of some men of light and leading of our own time ; and, in doing so, we would cherish the hope that, when in after years, you may seek refreshment or inspiration from these mute but wise companions, you may sometimes bestow a passing thought on the friends and the scenes of a former phase of your life.

MR. OAKLEY COLES rose amid considerable applause to reply to the address. He confessed that his debating powers had deserted him, and that he could not sufficiently thank the donors or the presenter of the testimonial. It seemed to him a fitting time to say something about the motives that had induced him to take so important a step as to change his profession. His friends had viewed his decision in very different lights, and he should like to explain how he had been led towards it. He had felt that men of experience in the world were wanted in the Church ; that infidelity must be met by argument ; he had entered upon the work and could not leave it half done, nor pursue it as merely the occupation of his leisure. He felt that to gain the ear of the working classes he must show that he wanted nothing from them, that he did not take holy orders as a means of livelihood. He regarded his previous life, with its experience of scientific methods of investigation and administrative details, as an invaluable training for his ecclesiastical labours. It was not necessary to force science and theology into agreement, but rather to rejoice in the points in which they did agree. Touching upon the nature of the testimonial, he thanked the donors for allowing him a choice as to the shape it should take. Among the books he had chosen were many that might appear strange to some strict theologians, but to combat error it was necessary to understand it in all its details—Comte and Herbert Spencer found a place on his shelves as well as Paley and Butler. Turning to his connection with the dental profession, he rejoiced to have been connected with science during a very memorable quarter of a century. The generous gift would

be a perpetual link between himself and his old friends, and an enduring memento of their kindness and sympathy. He accepted it most gratefully as an appreciation of what he had attempted to do in the past, during a period which he might call his probation for the sacred profession to which he hoped to attain.

OBITUARY NOTICES.

FREDERICK WILLIAM BATE, Esq., L.D.S.Eng. (1880), aged 26, son of the late F. H. Bate, Esq., surgeon, of Maida Vale, died on the 30th of December last. Mr. Bate had occupied the post of House Surgeon to the National Dental Hospital, Portland Road. He succumbed to an attack of typhoid fever while reading for his primary membership examination.

WE regret to announce the death, at Savannah, Georgia, U.S. America, on the morning of December the 27th, 1885, of A. H. Best, M.D., L.D.S.I. Some years ago Dr. Best was for a short time resident in this country with the object of introducing a special process of celluloid manipulation. Deciding to settle permanently in London, he commenced practice, and was pursuing it with success when a violent rheumatic seizure, with considerable prostration, compelled him to abandon his plans, and as soon as the state of his health would permit he returned to America. He never entirely recovered his health, and finally succumbed on the 27th of December. Dr. Best frequently contributed to the professional journals, and his many friends on this side of the Atlantic will receive with regret the announcement of his decease at a comparatively early age.

ANNOTATIONS.

THE annual meeting of the Edinburgh Dental Hospital was held on Monday, 1st February, Dr. John Smith, LL.D., in the chair. The Dental Staff and Administrative Committee presented a very favourable report. 6,689 patients had been treated during the past year; 1,592 of these were cases of stopping, showing an increase of more than 50 per cent. in this department. The Administrative Committee had fixed upon a site and prepared

plans for a new Hospital, but the arrangements had not been completed owing to a difficulty about terms. This, however, they hoped to overcome. The Treasurer's report was also satisfactory, showing a considerable balance on the right side. Altogether the Hospital is making steady and rapid advances, and as a teaching institution is invaluable.

It is a fact of some significance that no less than ten candidates presented themselves for the two vacant posts of assistant anaesthetists to the Dental Hospital of London. The qualifications and position of all these gentlemen were so satisfactory as to cause some embarrassment to the electing body. Such a fact as this speaks for itself, and very plainly testifies to the rapidly growing appreciation on the part of the profession at large of the value and influence of the institution. That the appointment of anæsthetist to the Dental Hospital is sought after with eagerness by medical men of position is a proof that the Hospital is doing its work well, and that, as a consequence, its influence is becoming more and more widely felt outside the circle of dental practitioners.

THE Annual Dinner of the Past and Present Students of the Dental Hospital of London, will be held on Saturday, February 27th, at the Holborn Restaurant, under the presidency of Woodhouse Braine, Esq. Gentlemen either now or formerly connected with the Hospital or Medical School, who may, through inadvertence, not have received special notice, and who desire to be present, are requested to communicate with the Dean, at the Dental Hospital, 40, Leicester Square.

A VERY brief report of a case of alleged assault, tried at the Manchester assizes, appeared in the *Standard*, of Jan. 29th, and notwithstanding the unsavoury nature of the subject, it cannot be passed over entirely without comment. Similar accusations have before been brought against members of our profession, and if only as a warning, the points of the case must be recorded. A farmer's daughter sued a registered dentist for damages, for seducing her while under the influence of nitrous oxide gas, administered by him to enable him to perform a dental operation. The defence was that the defendant had never seen the girl until she came with her father to accuse him of the offence; that on

the day in question he had not administered gas to anyone, and that at the time of the alleged assault he was at the house of a relative. It was further suggested that the case was trumped up by the girl, in order to explain her condition to her family and a young man to whom she was engaged. The jury deliberated for four hours, and finding it impossible to agree, were at last discharged.

It would be unwarrantable to pronounce any opinion upon such slight report of a case, but it may not be amiss to remind our readers that patients have before laboured under strange hallucinations of this sort after recovery from anæsthetics, and even suppose that the defendant admitted to have administered the gas, the fact of the patient being possessed with the idea that she had been assaulted would not be substantial evidence in any way. Many such false impressions are on record where trustworthy medical men as well as the patient's relatives have been present and able to testify to the absurdity of the accusation. Moreover, if the anæsthetic employed were nitrous oxide gas, we think that an administration in court would have saved the jury their four hours' deliberation.

WE publish at page 100 an account of the monthly meeting of the Medical Sickness, Annuity, and Life Assurance Society last January. It is gratifying to notice the satisfactory condition of the balance-sheet of the society. Its usefulness is so self-evident that it would be almost superfluous to enlarge upon the advantages it offers to medical men. It is well, however, to keep in mind the fact that a medical man occupies a very precarious position as regards the earning of his daily bread. Our work is so personal that it is very difficult to entrust it even for a short time to another without the risk of serious defection, and until enough has been laid by to provide against a rainy day, we, our wives and families, and all who are dependent upon us, are at the mercy of a sudden illness. Let any member of our profession conceive what the sudden loss of his sight would entail upon himself and those around him, and then let him read through the abstract at page 100 describing the meeting of this society, and we think he will agree with us that it deserves well of the profession.

THE Russian method of dealing with medical men who decline to attend cases is, to say the least of it, despotic. An elderly practitioner was recently sent for to attend a confinement five or six miles off, the patient was a multipara and one doctor was already in attendance, who after failing in his efforts to apply the forceps had requested assistance in order that he might perforate the head. Two clinical assistants were applied to but could not get at the instruments because someone else had the key; other medical men pleaded that they did not possess the instruments necessary. The elderly practitioner required a fee of £2 10s. The messenger made further enquiries, found someone who would do it for less, and did not therefore return. A garbled account of the matter appeared in the press, and the old man was prosecuted and actually sentenced to eight days' arrest and ten shillings fine. An appeal to a higher court resulted in the sentence being raised to fourteen days. This appears to English minds a piece of unreasonable injustice and savours somewhat of some personal spite being mixed up in the matter. They manage medical matters very curiously in Russia. The educational expenses of medical students do not fall, as here, upon the shoulders of the parents or guardians, but are defrayed to a large extent by government. In return for this practical assistance the government exacts a pledge from the student to serve in any capacity that may be fixed for a certain number of years after qualification. This pledge proving irksome to certain members of the profession they petitioned to be relieved from it, and have received a reply from the government organ to the effect that their cases will only be considered when the State money which has been expended on their education has been returned.

WE are sure that most of our readers will hear with surprise that the number of medical students and graduates in the United States is steadily decreasing. In the United States during the session of 1884-5, there were 953 fewer students and 278 fewer graduates than during the previous year, which itself showed a fall of over 300 students and 100 graduates when compared with its predecessor. This is a fact full of food for reflection to the medical world. The profession is and has been for some time terribly over-stocked, and the *Lancet* is of opinion that America is beginning to feel it. For some years it has been very difficult for crowds of young men, annually added to the healing profession, to

find work and earn bread and butter in England. We find brilliant and promising young surgeons and physicians who have covered themselves with glory at their hospitals, actually clutching at the offer of a few hundreds a-year abroad, because at home they must live for years a burden to their parents before they can hope to get a practice if they remain in London. Medicine is a noble calling, but its disciples mostly die young and die poor. In America, however, there is another reason, the qualified man is so feebly protected against charlatanism and quackery that the reward of the diploma is scarcely worth the labour of obtaining it.

WE have received a copy of the rules, &c., of the "Dental Students' Association of Glasgow," lately formed by the students of the Dental Hospital in that city. We wish the "Association" success, but we think its founders would have shown more wisdom had they contented themselves with the usual title of "Students' Society." Etymologically the word Association should mean an aggregation of societies, and though the term is sometimes loosely used, this is the meaning usually attached to it. The assumption therefore of such a title by the students of a small school, though it may indicate their importance in their own estimation, is scarcely calculated to elevate them in the opinion of their neighbours.

At the annual general meeting of the Students' Society of the Dental Hospital of London, held at 40, Leicester Square, on Monday evening, January 18th, at seven o'clock, the following gentlemen were elected as office bearers for the year 1886:—President, George W. Parkinson, M.R.C.S., L.D.S.; Vice-Presidents, Sydney Buckland, L.D.S., Herbert S. Parkinson, L.D.S.; Treasurer, H. Lloyd Williams, L.D.S.; Honorary Secretaries, Walter J. England, L.D.S., Charles F. Rilot; Curator and Librarian, James F. Colyer; Council (second year's students), George O. Whittaker, T. H. G. Wrighton, H. Williams, A. Kendrick, A. T. Croucher, (first year's students) T. S. Rendall, A. P. Carr, G. Seymour, R. Ackland.

DR. BLAND SUTTON, F.R.C.S. (the Sir Erasmus Wilson lecturer of the current year), has been appointed assistant-surgeon to Middlesex Hospital. Mr. Sutton has done a great deal of valuable

original work in the field of comparative anatomy, and has on more than one occasion contributed interesting papers to the Odontological Society; the latest instance being no less recently than the February meeting of this year. His name is therefore familiar to many of our readers, and his appointment to the Staff of Middlesex Hospital is a very pleasant item of news.

SOME of our readers may be interested to know that the Tinct. Aconiti (Fleming) and Tinct. Iodi $\bar{a}\bar{a}$, which we are all in the habit of using as a counter-irritant in periostitis, is a sovereign remedy for the earlier stages of chilblains. It should be painted over the chilblain before the latter breaks, and will restore the circulation and subdue the itching which is so troublesome a feature in chilblains. We feel that the inclement weather excuses us for venturing thus far away from strictly dental matters.

DR. EMIL G. REYFUSS has brought together some important facts relative to poisoning by gelsemium (*Therapeutical Gazette* October 15th, 1885) and publishes some experiments on rabbits undertaken to investigate the effect of antidotes. Very small doses have proved fatal. A boy of two years old was killed by 21 drops of the fluid extract, and another fatal case followed the first dose of the following prescription: quiniæ sulph. gr. x. tinct. gelsim. \bar{z} i. Syrup \bar{z} v. a teaspoonful every two hours. Dr. Reyfuss recommends stimulants, sinapisms and counter-irritants, together with artificial respiration and hypodermic injection of atropine sulphate to sustain respiration.

GOSSIP.

ODONTO-CHIRURGICAL SOCIETY.—The fourth ordinary meeting of this Society (session 1885-86) was held in the Rooms, 30, Chambers Street, Edinburgh, on Thursday, 11th inst., at 7 p.m., W. Bowman Macleod, Esq., L.D.S., President, in the chair. A discussion upon the treatment of the teeth of children up to the age of twelve years was opened by Malcolm Macgregor, Esq., L.D.S.Ed.

THE Edinburgh Dental Students held their second smoking concert, on Saturday evening, January 16th, Mr. J. Leslie Fraser,

L.D.S.Ed., of Inverness, presiding. The musical committee had brought together a large number of gentlemen who contributed songs, pianoforte and violoncello solos, and readings, and the interesting variety of the programme was highly appreciated by an audience of more than one hundred students and friends.

IN consequence of a decree, dated 31st January, 1886, M. Paul Bert, deputy and member of the Institute, has left Paris on a temporary mission to Annam and to Tonquin in the capacity of Resident-General. M. Bert's researches into the subject of anæsthetics have made his name familiar to all men of science, and we trust he will prove as successful in his political mission as he has in science.

WE are pleased to see among the names of those who were admitted Licentiates of the College of Physicians on January 28th, that of Mr. W. A. Maggs, L.D.S. Mr. Maggs was a distinguished pupil at the Dental Hospital, and has for some time been in partnership with Mr. Joseph Rogers, of Hanover Square.

THE *Lancet*, referring to our recent annotation, assures us that they have read Hunter's book, we would urge in all friendliness that such an excellent book is worthy a second perusal, and then we could suggest some few more recent text-books that will well repay careful reading. It is well to begin at the very beginning, but it does not do to stop there.

MORE than a hundred copies of our January extra issue were returned as wrongly addressed. The addresses were copied from the proof of the Register for 1886, and the fact that more than a hundred were wrong testifies to much careless neglect of the obvious duty of notifying a change of address.

WE publish elsewhere an account of an important discussion at the Radcliffe Infirmary, Oxford, about the appointment of a dental surgeon. We propose to discuss the matter at length in our next issue.

DEATH FROM SWALLOWING FALSE TEETH.—A few days ago Mr. Turlington, of Athlone House, Dublin, swallowed three false teeth. They stuck in the gullet about an inch or so down, and an operation was subsequently performed with the view to remove them, but Mr. Turlington has since died.

THE new President of the Odontological Society, Mr. T. Charters White, who is so well-known as a microscopist and histologist, was not the senior Vice-President of the Society.

THE inauguration of the statue of the famous physiologist, Claude Bernard, took place at the Collège de France, on Sunday the 7th of February.

HENRY BLANDY, Esq., L.D.S.I., has been elected President of the Nottinghamshire Amateur Photographic Society, and delivered an excellent address on the evening of February 1st.

Dr. MAGITOT, whose name is so well known to students of dental anatomy, has just been elected Vice-President of the Anthropological Society of Paris for 1886.

WE are delighted to see our Edinburgh friends are succeeding so well with their Hospital. Fifty per cent. more stoppings and plans for a new building look like business.

WE have much satisfaction in announcing that Mr. Charles S. Tomes is preparing a paper on the anatomy of the dental periosteum for publication in our pages.

IN our next issue we hope to give the first instalment of Dr. Galippe's exhaustive treatise on the chemical composition of the teeth.

WE are informed that two thousand and seven hundred post cards have been sent out with regard to the Benevolent Fund "Charity suffereth long!"

IN the description of a hot-air syringe by Mr. Pedley last month, we printed *Solarium berry* instead of *Solanum*.

WE have great pleasure in thanking our numerous correspondents for their enclosures. We welcome all scraps of news however brief.

CORRESPONDENCE.

Literary Piracy.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—A copy of a small work published by C. H. Land, of Detroit, has just come into my hands, and, to my surprise, I find that nearly one-half is reprinted from my "Practical Hints for the Laboratory and Operating Room," first published in 1873. I would suggest to Dr. Land that, in the event of the dental profession requiring another edition of his compilation, he should add to the title, "and appropriation of another writer's book by C. H. Land." To say nothing of the morality of this kind of thing, one would think that common politeness would have suggested the propriety of acknowledging his indebtedness to another for so large a proportion of his matter, but as my little book is pretty well known both in England and America, I am inclined to think this proceeding on the part of Dr. Land will not add to his reputation.

THOS. FLETCHER.

Evrard's Forceps.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—As the above subject is exciting some remark at present, it may not be out of place to mention that the late Mr. Evrard did not profess in making his instruments that the steel itself of which the instruments were made was in any way superior to that which good dental instruments are usually made of.

I saw Mr. Evrard some time previous to his decease, and in answer to a question of mine as to whether the steel was better than that generally used in the manufacture, replied "that he did not claim that the steel of his forceps was superior to others, but he could say that he gave a great deal of attention and care to the temper and finish of the forceps he made, so that they might be as reliable as possible.

Now I think that this is to the point, and, to be guided by the maker's own statement, too much will not be expected from his or any other forceps, as it appears that they are all liable to break, no matter the expectations which may have been formed about them, whether by this maker or any other one; it is pretty evident that the steel is much about the same quality.

Your kind insertion of the above will oblige,

Yours, Sir, &c.,

Clapham Junction, London, S.W.

T. G. O'NEILL.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—With reference to Mr. J. J. H. Sanders' alarming accident, I would like to ask, if it is probable that the cold weather had any influence in the snapping of the forceps, if so, I should say, that the warming of an instrument for extracting is as necessary when using an anæsthetic as when not.

Yours truly,

C. A. CLIFFORD BATTEN, L.D.S.

Kidderminster, Feb. 8th, 1886.

APPOINTMENTS.

Mr. WHITEHOUSE has been appointed by the Lambeth Board of Guardians to the Norwood Schools. Salary not less than £30 per annum.

W. J. ENGLAND, L.D.S.Eng., has been appointed Honorary Dental Surgeon to the Home for Female Orphans, St. John's Wood, N.W.

WALTER HARRISON, L.D.S.Eng., D.M.D., Harvard, to be Dental Surgeon to the Royal Alexandra Hospital for Children, Brighton, *vice* Mr. Tod resigned.

JOHN HUMPHREYS, L.D.S.I., Honorary Surgeon to the Birmingham Dental Hospital, has been elected Professor of Dental Anatomy and Physiology at the Queen's College, Birmingham.

BOOKS AND PAPERS RECEIVED.—Transactions of the American Dental Association ; Diagnostik der Zahnkrankheitung, Dr. Arkovy, Budapest ; Recherches sur les Propriétés physiques et la constitution chimique des Dents, Dr. V. Galippe, Paris ; Notes on Anæsthetics, Arthur S. Underwood, London ; Dental Syllabus, Ford, Michigan ; the Dental Register ; the Cosmos ; the Independent Practitioner ; the Lancet ; the Dental Record ; the British Journal of Dental Science ; the British Medical Journal ; l'Odontologie ; le Progrès Dentaire ; Dental Catalogue, Messrs. Ash and Sons.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 40, Leicester Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Members are reminded that their Subscriptions for the current year are now due and should be remitted to the Treasurer, at 40, Leicester Square.

According to the Byelaws of the Association, Members who are one year in arrears are not entitled to receive the Journal.

All Correspondence for the Editor, Books for Review, and Exchange Journals should be addressed to 40, Leicester Square, London, W.C.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 3.

MARCH 15, 1886.

VOL. VII.

Dental Appointments.

THERE can be no doubt that a very important question deeply affecting the interests of our profession is gradually forcing itself upon the attention of the public at large. In many forms and many places the question is beginning to be asked whether any organised community to whose physical well-being medical supervision is indispensable, can safely be allowed to dispense with dental supervision. The intelligent discussion at the meeting of the Court of Governors of the Radcliffe Infirmary (see February No., page 98) shows that at Oxford, at any rate, the sense of the want of such supervision at the Infirmary has made itself felt among the lay as well as the professional rulers. No doubt, before long, the sister university will take the question up. Cambridge is not accustomed to lag far behind in the matter of obvious reforms, and unless the formidable

invasion of last autumn proved altogether too much for the nerves of her peaceful inhabitants, we shall expect to see a similar movement set on foot in the city that so hospitably entertained us in August last.

In our October issue, of last year, we published an eloquent appeal on behalf of the neglected children of the poor, by Mr. Fisher, of Dundee, who advocated with much force and clearness that dental supervision should be compulsory in schools, and that the present Navy regulations concerning dental disqualifications were so rough and primitive, as to show in the highest degree the necessity for competent advice.

This latter question has been since touched upon by Mr. Spence Bate in his valedictory address, at the Odontological Society. Mr. Bate's eminence in his profession and in science generally, combined with a happy knack of making himself plainly understood even by those who are not versed in technicalities has produced a very satisfactory result in attracting a long and sensible leader in *The Standard*, which will enable Mr. Bate's common sense arguments to circulate widely among the general public, and will possibly do much to pave the way for reform.

Lastly, a correspondent has enquired, concerning the proper and fitting remuneration that a qualified dental surgeon should receive for undertaking the care of the teeth of a school of sixty to seventy children.

All these things are signs of the times; on every side people are beginning to find out that life is neither so long, so enjoyable, nor so useful, if they have not an efficient set of teeth, and they are therefore setting about an inquiry as to the terms at which dental supervision may be provided for the various communities under their guardianship. It is therefore the duty of this Journal to attempt to represent the views of the British Dental Association upon these

various points, and in doing so we must claim some indulgence on the score that the subject is a new one in many of its aspects, and that there is no precedent to guide us.

First, with regard to the necessity for a dental surgeon at the Radcliffe or any other infirmary or hospital, if a qualified man can be obtained there is no doubt of the propriety of the appointment. In the case of the hospitals as in the case of the army or navy stations, the absolute necessity of dental supervision scarcely needs pointing out to dental readers.

We are too well aware of the impossibility of such supervision being adequately supplied by a purely medical or surgical staff. The educated general surgeon who knows anything of the anatomy or pathology of the teeth wisely refers their disorders to a specialist. The less instructed, and therefore less cautious practitioner, who, on the strength of an examination knowledge of the current hand-books on surgery, takes his diploma and promptly undertakes the care of the eye and the teeth, is familiar by his works to all of us; a recent house-surgeon at Moorfields estimated that a large number of eyes were enucleated there per annum, the loss of which was solely attributable to the hopeless blundering of some general practitioners who did not understand the eye, but treated it boldly notwithstanding. A similar tale of error may be told by the staff at our Dental Hospitals. In dental matters, however, there are many who do recognise the benefit of previous study and experience before undertaking the responsibilities of practice, and the trouble is chiefly that the greater part of the population are subjected, not to mal-treatment, but to absolute neglect. Of course the Radcliffe Infirmary should appoint a dental surgeon as they have decided to do, furthermore they should consider the possession of the L.D.S. an indispensable qualification, and lastly, the gentleman whom they

elect should become a member of the staff; unless they concede this point they will simply punish themselves by obtaining an inferior man, for surely a thoroughly good man holding the L.D.S. qualification will scarcely accept the appointment on any other terms.

With regard to the contention of Mr. Spence Bate and Mr. Fisher, of course the Association is perfectly at one with them—it is the public who have still to be convinced. There can be no doubt of the ludicrous absurdity of rejecting boys for the Navy simply because they have lost five teeth, seeing that a large proportion of humanity would be all the better for the loss of the four six-year-old molars, and that many irregularities and crowdings may be most satisfactorily treated by judicious extraction. But it would be a waste of time to enlarge upon this portion of the theme, the point to be impressed is this, that many mischievous abuses would disappear if the Government would appoint a dental officer to pass boys and men for the service, to point out where the mischief was remediable, and to suggest the appropriate remedy and even to apply it.

Some interesting information may be gathered by those who are interested in this subject from a paper read by Mr. Gaddes before the International Medical Congress, 1881.

The question needs ventilation; free discussion will clear up many points of detail, and it is a subject well worthy the attention and energies of the profession.

RADCLIFFE INFIRMARY, OXFORD.—An election to the office of consulting dental surgeon will take place on Wednesday, March 24th. Candidates must be legally qualified to practise as dentists. Applications, with testimonials, to be sent, on or before March 10th, to the Secretary, from whom all further information may be obtained. (By order) F. H. PETERS, Secretary, *pro tem*.

The Journal of the British Dental Association.

THE growing popularity of the Association and of the Journal which represents it, has been evidenced during the last few weeks in a very remarkable manner. Not only have we received gratifying news from various quarters of the enrollment of new names upon our list of members, but an unprecedented and unexpected demand for the Journal has arisen to such an extent that the February issue has gone out of print. This fact, although in one sense a little embarrassing, is a great encouragement to the Publishing Committee and Staff to redouble their efforts to make the Journal worthy of the important profession it represents. Not only shall we be flattered into extra activity by the kind appreciation of the dental public, but the increase of circulation means an increase in the sinews of war; our power to benefit the profession will develop through the same causes that stimulate our ardour to serve it worthily. Union is no doubt the only true strength, and it seems now as if those who have for years been working for us with their necks against the collar, without grudging and without rest, have some prospect of seeing the result of their labours in the growing power and success of the Association.

At such a moment it will be well for us to give a general reply to many letters that we have received concerning the conduct of the Journal, and to explain as clearly as we can what we conceive to be the essential objects and aims of a dental periodical, and what conditions will most conduce to their attainment.

First of all we have to thank our correspondents one and all for their letters, their kindly tone has told the same tale as the increasing circulation, our appeal for news has been answered from many quarters, while friendly and flattering expressions of approval have been numerous. There are, however, one or two points which require a word of explanation.

Our Journal consists of 64 pp. exclusive of advertisements, and we have to fill this space with such an assortment of matter that each and all of our readers may find something to attract his attention; something specially worth reading and suited to his special tastes. Now our readers are a very various body, some like abstruse science, some like gossip and chit chat and news, and none are averse to find something about themselves; we would not willingly omit any item of interest, and we wish to have something to suit everyone; to do this in so short a space we cannot

afford to give up an enormous number of pages to any one paper.

One of our correspondents cannot understand why we are continually asking for more papers with the pruning knife and shears in our hands all the while, ready to lop off and curtail and condense. It does seem paradoxical, unless the author can be brought to imagine the existence of readers who might either not understand or not care for the subject of his paper, however valuable it might be for others ; such an unappreciative residuum would complain if we allowed a third of a number to be occupied with a learned article to the exclusion of a quantity of various and possibly lighter matter. We do not produce the Journal only for the erudite who refresh themselves after practice hours with fresh labours in the field of science, we are just as eager to minister to the fatigue that seeks its solace in a desire just to know what's going on. It is therefore our duty as we conceive of it to keep everything within bounds, and with this end in view we endeavour to time the work submitted to us in such a manner that it shall lose as little as possible thereby ; a great deal of ornamentation that is a graceful addition to a speech when delivered, or a paper when read, is quite unnecessary to the thread of a printed argument and even detracts from its literary merit. We trust that these few words of explanation will suffice to show our contributors that when we employ the time honoured editorial privilege of erasure, it is neither because we object to the passages removed, nor because we have a surfeit of matter, but because we consider the passages can be the best spared, and because, in justice to our varied audience, we will not insist upon their all satisfying their literary appetites out of one dish, however good we and the cook may think it.

Lastly, when we cannot answer our correspondents satisfactorily ourselves, we will publish their questions so that they may meet the eye of someone who possesses the required information. Our readers may rely upon a constant improvement, and with their continued co-operation we hope the Journal will not unworthily represent the Association and the profession.

THE BRITISH DENTAL ASSOCIATION.

Receipts and Expenses Account for the Year ended 31st December, 1884.

General Account.				General Account.			
To Rent...	£	s.	d.	By Subscriptions	£	s.	d.
" Secretary—Salary	25	0	0	Less amount credited for " Association Journal " account below	542	18	0
" Stationery and Printing	69	15	9	"	180	19	4
" Auditing, Postages and Sundries	26	8	2	<i>Association Journal Account.</i>	361	18	8
" Legal Expenses, re Robertson and French	33	12	8	" Subscriptions as above	180	19	4
" Expenses of Cambridge Meeting	39	0	2	" Sale of copies of Journal	25	13	8
	243	16	9	" Advertisements	169	11	11
<i>Association Journal Account.</i>					376	4	11
" Printing, &c.	339	8	7		£738	3	7
" Salaries, &c.	99	1	2				
	438	9	9	By Balance brought down ... ..	...	...	...
" Balance carried down	55	17	1	" Ditto from last account ... ..	...	...	...
	£738	3	7				
					55	17	1
					787	3	3
					£843	0	4

THE BRITISH DENTAL ASSOCIATION.

Balance Sheet.

D.R.	<i>Balance Sheet.</i>	<i>1st January, 1886.</i>	Cr.
To Balance from Receipts and Expenses Account	... 843 0 4	By Cash at Bankers ...	... 589 0 3
		" Ditto in hands of Treasurer ...	... 54 0 1
		" Goodwill of Journal ...	... 200 0 0
	<u>843 0 4</u>		<u>£843 0 4</u>

70 and 71, Bishopsgate Street Within, E.C.
6th February, 1886.

Examined and compared with the Books and Vouchers found correct,
RAIT & KEARTON (Chartered Accountants) Auditors.

ASSOCIATION INTELLIGENCE.**The Representative Board.**

A MEETING of the Representative Board took place at 40, Leicester Square, on February 27th. Mr. J. S. TURNER, Vice-President, in the chair. There were present Messrs. T. A. Rogers, S. J. Hutchinson, Morton Smale, Thos. Gaddes, Storer Bennett, Thos. Underwood, A. J. Woodhouse, J. Parkinson, of London; Messrs. Fenn Cole, Ipswich; H. Blandy, Nottingham; W. B. Macleod, Edinburgh; G. McAdam, Hereford; George Cunningham, Cambridge; J. T. Browne Mason, Exeter; J. Dennant, Brighton; W. H. Waite, Liverpool; W. A. Rhodes, Cambridge, and F. Canton, Hon. Secretary. Letters were read from Messrs O'Duffy, Richard Rogers, Richard White, and R. W. White regretting inability to be present.

The minutes of the last meeting were read and confirmed.

The business Committee reported that they had the subject of the election of certain members of the profession as Fellows of the Association under consideration, and at a subsequent meeting would report the results of their deliberations.

A case of alleged fraudulent registration was considered by the Board and referred to the business Committee.

The result of the prosecution of J. H. Blake reported to the Board, he being fined £5 and Court costs.

The Treasurer reported the balance at the bank as £637 18s. 9d., and submitted a bill of £82 6s. 2d., the costs of the prosecution of J. W. Blake to the Board, and he was instructed to pay the same.

One or two new cases of alleged infringement of the Dentists Act were brought under the notice of the Board, and referred to the business Committee for investigation.

The Report of the Journal and Finance Committee was read and adopted, it having been duly audited by the accountants.

The Hon. Secretary announced that the use of the Theatre of the Royal School of Mines, in Jermyn street, had been granted to the Association in which to hold the Annual Meeting, and that the managing Committee of the Dental Hospital, and the Odontological Society had also kindly placed their rooms at the disposal of the Association for the holding of clinics, exhibition of instruments, &c.

One resignation was announced.

The name of Mr. J. L. Fraser, L.D.S.Edin., was received as having been elected by the Scottish Branch.

The following names were received as having been elected by the Midland Branch, viz :—W. J. Jones, L.D.S.I., Bradford ; Josiah Lee, Bradford ; John Moore, L.D.S.I., Stockport ; Thomas T. Parkinson, Bradford ; John W. Simon, L.D.S.I., Huddersfield ; Geo. G. Sloane, L.D.S.I., Bradford.

The following were elected members of the Association by ballot :—Chas. Browne-Mason, L.D.S.Eng., Scarborough ; J. O. Butcher, L.D.S.Eng., London ; C. H. Cooper, L.D.S.I., Bradford ; T. H. Deane, Paris ; Walter Harrison, L.D.S.Eng., Brighton ; J. H. Redman, D.D.S., L.D.S.I., Brighton ; R. W. Monro, L.D.S.Eng., Lewisham ; F. Sherbourn, L.D.S.I., Leeds.

West of Scotland Branch of the British Dental Association.

FEBRUARY MEETING.

THE usual monthly meeting of this Branch was held in the Faculty Hall, St. Vincent Street, Glasgow, on February 10th ; the President, Mr. W. S. WOODBURN, in the chair. After the usual routine business and the admission of two new members,

Mr. A. FERGUS submitted a selection of excavators and forceps obtained by him while in America, and contributed the following casual communication :—

"In the argument preceding 'Hesperides' Herrick tells the reader that his verses are linked round the finer views of nature and the higher aspects of human life. How beautifully this chain of a fine imagination has encircled its subjects it is not for the present to disclose, but it will no doubt interest you, gentlemen, to learn (if indeed you know it not already) that this sweet singer has honoured the art of so-called mechanical dentistry in the following epigram at once pithy and descriptive of the practice of the day :—

'UPON GLASCO.

' Glasco had none, but now some teeth has got,
Which though they fur, will neither ache nor rot.
Six teeth he has, whereof twice two are known
Made of a haft that was a mutton-bone ;
Which not for use, but merely for the sight
He wears all day, and draws those teeth at night.'

"Now, gentlemen, a moment's observation will show that Herrick,

however able to glory in 'The candour of Julia's teeth, or revel in the many charms of the peerless Perilla,' must shield himself behind a poet's license, or the ignorance of a *non-specialist* when indulging his rhyme at the expense of the toothless Glasco. Possibly had the mutton-bone grinders been the personal property of Herrick he would have discovered that they did rot as well as fur; possibly, too, he would have kept the matter to himself, and so this touching little sketch so full of interest to us would have been lost in the oblivion of the past.

"Alas, poor Glasco! One is sorry for thee, that thine eyes saw not these later days, when for use as well as sight thou mightest have rejoiced in the triumphs of modern prosthetic dentistry."

NOTE.—"Hesperides, or Works both Human and Divine," were first printed in 1647, when the poet had attained his fifty-seventh year.

Mr. REES PRICE then brought forward the following interesting case:—*History*.—In the early part of 1882 the patient, a lady, had had inserted a full upper suction denture of celluloid. After wearing the case for about 18 months the patient consulted another dental surgeon with regard to the state of her mouth. He found the tongue congested, also the cheeks, lips, and palate wherever in contact with the celluloid. He suggested a vulcanite case should be substituted and in a fortnight the mouth was much better. The case was reported as one of severe congestion of the tongue from contact with celluloid.

In the spring of 1884 (about six months after the insertion of the vulcanite case) the patient consulted Mr. Rees Price. She complained of constant pain after wearing the denture for some time, with a want of flow of saliva, and a dry enlarged tongue. The lady admitted great relief had been obtained by the substitution of the vulcanite denture for the celluloid, but that the old conditions had been gradually returning. She now wished to have a gold suction upper case. The patient was in a highly nervous state and very anxious and depressed as to the condition of her mouth. As she was to leave immediately for a change of scene, Mr. Price advised that nothing should be done for the present, and that no case of any kind should be worn. In July Mr. Rees Price again saw the patient. She was no better and imagined that her lower incisor teeth were decaying. This proved groundless on examination, but under the delusion the patient had pressed some chemist's tooth-stopping between the teeth, and this was

forcing down the contiguous gum. In the autumn of 1884 was considered advisable to remove the patient from her friends and place her under constant medical supervision. At the present time she is still away and is likely to be so. The case is one of confirmed melancholia. The vulcanite case has been worn for the last few months and the patient makes no complaint with regard to her mouth.

There can be no doubt that at the time of the oral disturbance any denture, whether of vulcanite or gold would have promoted the symptoms of which the patient complained. The case is an interesting one as shewing how error may arise in concluding that local symptoms may be merely of local origin when really they are far more deeply seated.

Midland Branch.

On Saturday, February 20th, a well attended meeting of Members and Associates of this Branch, took place at the Young Men's Christian Association, Manchester. H. BLANDY, Esq., President of the Branch, in the chair.

The PRESIDENT stated that at the Council Meeting that afternoon, Mr. Matthews, of Bradford (President-elect), had given a most satisfactory account of the arrangements in progress for the Annual Meeting, which would be held in Bradford, on Friday, April 30th. He hoped all the members would make a point of being present, as the meeting promised to be both pleasant and profitable.

Mr. T. MURPHY, L.D.S. (Bolton), then read the notes of a case of rupture of a blood vessel in the pulp cavity, resulting from a blow. The patient, a lady, aged 28, had been thrown from her carriage, but had sustained no injury beyond a pain in the teeth resulting from a blow on the mouth. The pain subsided in two or three days except in the left upper central and lateral, the central having undergone a slight pinky discoloration. All her other teeth were normal and perfect. When Mr. Murphy saw the case the central was very sensitive. Having diagnosed a rupture of a blood vessel he proceeded to tap the pulp cavity from the lingual side, which proceeding caused but little pain; some blood escaped, estimated by the operator at half a teaspoonful, and the result was instantaneous relief, and the teeth could now be closed without

pain. The cavity was syringed with tepid water and dressed with carbolic and eucalyptus oil. The colour improved within a few minutes of the tapping of the chamber. The next day all irritation had subsided and the natural colour was restored. The root was subsequently dressed with creasote and a gold filling inserted, and a troublesome accident brought to a satisfactory conclusion.

In the discussion which followed, Messrs. Blandy, Matheson, Renshaw, and Pike took part.

Mr. JEWITT (Liverpool) exhibited some models of a case of retarded or obstructed development of right upper lateral and canine, giving particulars of the case, spreading over three years.

Dr. CRAPPER also showed models of irregularity.

The SECRETARY spoke in praise of Evrard's forceps, and showed some patterns of excavators given to him by Dr. Lord, of New York, and which he had found useful, and which could be obtained from Mr. Hallam, jun.

The subject of instrument-making aroused the enthusiasm of the men of Sheffield, who warmly upheld the excellence of their manufactures. During the discussion Mr. E. H. Williams submitted to the removal of an upper molar tooth at the hands of Mr. Mahonie. This demonstration of the excellence of Sheffield steel amused and delighted the meeting.

The PRESIDENT reported that his "photos." of the Cambridge gathering had realised about ten pounds for the Benevolent Fund.

Mr. SHILLINGLAW suggested that it would lend considerable interest and value to the Journal if a good "photo" of a prominent dentist were inserted as a frontispiece in each monthly issue. The suggestion was highly approved.

Altogether this informal meeting proved a very great success, and after conveying their hearty thanks to the President for his genial conduct of business, the members separated congratulating each other upon the pleasure and advantages of friendly professional intercourse.

Central Counties Branch.

THE next meeting will be held on Thursday, the 25th of March, 1886, at the Dental Hospital, 71, Newhall street, Birmingham. Coffee at 5.30, business at six o'clock. Several papers are promised, including one from Professor Poynting, on

"Thermometers and Thermostats" (which was unavoidably postponed at the last meeting), and one by Mr. Peyton Levason, on "Sponge Gold Fillings," illustrated by a demonstration.

BREWARD NEALE, *Hon. Sec.*

ORIGINAL COMMUNICATIONS.

Some Points of Interest in Dental Anatomy.

BY ARTHUR UNDERWOOD, M.R.C.S., L.D.S.

ALTHOUGH it is of the highest importance to clear teaching that the principal varieties of the calcified dental tissues should be marked out with hard and fast distinct lines, it has already been recognised that between any two of the marked varieties there are intermediate tissues more or less resembling both, so that one tissue gradually changes into another. Moreover, it has been found convenient to accept the frequent recurrence of certain forms of these tissues in certain animals and in certain parts of their teeth as a general rule, but as it is an undoubted fact that the formative cells may form very different tissues under different circumstances, and that cells which are apparently similar can certainly form all the varieties of dentine bone, so it is scarcely a matter for surprise when we find in the midst of a tissue that should be entirely composed of hard unvascular dentine, traces of blood vessels and isolated fragments of vaso-dentine which must have been formed by those same odontoblasts that formed the bulk of normal tissue.

I need scarcely remind you that in the teeth of many fishes we meet with the three typical forms of dentine (unvascular, vaso, and osteo) occurring in different parts of one and the same tooth, the pulp that forms them first forms a crust of unvascular dentine at the apex, then vaso-dentine lower down, and, lastly, osteo-dentine at the base. There is no apparent difference between the cells that form either of the three varieties. Again, in human teeth, after their growth is complete the approach of caries from without may stimulate the old odontoblast cells to recommence dentine formation in order to protect the pulp. The earliest portions of this secondary tissue are quite different from the normal dentine and rather resemble bone.

To take another instance, in the cementum of the lion there

are marked lacunæ, separated by layers of what closely resemble dentinal tubes; these tubes commence to all appearance as canaliculi, all taking the same direction, the lacunæ disappearing or crowding together in groups and layers, and finally the intervening tissue becomes hardly distinguishable from dentine. Many such instances might be quoted, but these suffice to show that odontoblasts may under unusual circumstances produce different dentine from that which is their normal product. In Tomes' "Dental Anatomy," page 83, there is an illustration of a vascular canal in human dentine. It has been my good fortune to meet with several similar vascular canals, and, examining them at a magnification of about 800 diameters, I have observed the following interesting facts. First, that when present they form the centre of what might be described as a commotion amongst the dentinal tubes. These latter behave as though it were impossible to approach within a certain distance of the canal. The appearance under a low power is not at all unlike a piece of wood with a knot in it (the knot being the canal and the area surrounding it); the tubes, as they approach this area, bend away abruptly and skirt around it huddled close together, approaching again on the other side. At first sight I concluded that for some inexplicable reason the area surrounding the canal was destitute of tubes and, in fact, structureless. Examining the same specimens under a higher power, I was surprised to find that the area surrounding the canals was permeated by a special system of tubes infinitely finer than the ordinary ones, and radiating from the central blood vessel to the circumference of the surrounding area. The terminations of these fine tubes communicated with the branchlets of the ordinary tubes.

The tooth in which I met with the best specimens of this peculiarity (it contained several) was in itself a very abnormal tooth indeed. It was an upper central incisor with the root bent backwards so as to be parallel with the crown and the nerve exposed by a fine opening at what should have been the lingual surface of the neck. I have in my possession several others more or less marked. Among them is one in which the tubes although avoiding this area on the one side enter it freely on the other; another in which the tubes avoid a series of patches in the dentine, in which, however, I cannot discover any trace of a blood vessel, and in which, I suppose, the section has sliced off a piece of the area without exposing the core. The shape of these "islands" or

area is more or less round or oval. They are scattered indiscriminately about the dentine; they are of pretty uniform size (about $\frac{1}{80}$ in.), and are generally present in teeth otherwise abnormal. To turn for a moment from human dentine where their presence is an abnormality, we find them normally existing in great numbers towards the inner or pulp surface of the dentine of the tusk of the walrus. Retzius has described and figured the microscopical anatomy of the walrus's tusk at great length and with his usual accuracy. For the details of this description as well as for much other matter of great interest to students of anatomy, I would refer those who care to pursue the question to the translation of Retzius' writings in Nasmyth on the Teeth (1839 edition). I have brought two specimens of walrus tusk showing this appearance very well. Retzius calls these objects "dentine corpuscles," they occupy about the inner third of the dentine completely, leaving scarcely any interspaces. In fresh specimens the remains of vascular tissue may be seen in the central canals, showing that they do contain blood vessels. In most of these areae, besides the fine radiating striation, there is a series of contour lines one outside the other (possibly due to a simultaneous waving of the radiating tubes) forming concentric rings of a faintly dark appearance.

The size and appearance of the canals would suggest the possible presence of other tissue besides the blood vessel, *i.e.*, nerves and fat and connective tissue; moreover, in the tooth I have alluded to as containing several areae, there existed a fine projection from the pulp to the surface that was acutely sensitive, although too fine to be visible to the naked eye until it was caused to bleed.

In some cases the island is lengthened out. In one specimen there are a great number of small spherical bodies in the dentine in the immediate neighbourhood of one of the islands, which are plainly traces of arrested development; in fact, nothing more nor less than Rainey's calcospherites.

The apparent clearness and absence of structure in these areae is due to the fineness of the tubes which renders it difficult for air and mounting fluids to penetrate them. I hope in the course of the ensuing year to bring this subject again before your notice at the Odontological Society.

Antiseptics in Dental Surgery.*

By FRANK HARRISON, M.R.C.S., L.D.S., Sheffield.

IN the present day antiseptics justly claim so large a degree of professional attention that I decided to read a paper upon the subject, in the hope of further illustrating this important branch of study. It would be ungracious not to refer to the great work achieved by Lister in introducing antiseptic treatment. The researches of Koch have been followed keenly, no doubt, by most of us. In our own speciality we are indebted to Underwood and Milles for demonstrating the actual presence of micro-organisms of a special kind in carious dentine before the International Medical Congress of 1881. These authors, addressing the Odontological Society again in 1884 upon the same subject, make the following statement: "Micro-organisms were found in every fragment of carious dentine of which we cut sections." They particularise by asserting—"1. That certain forms of micro-organisms, namely, micrococci, rod-shaped and oval bacteria, and short bacteria are invariably present in carious dentine. 2. That these micro-organisms extend into the tissues as far as does the caries. 3. That no agents can be made to produce a change resembling caries in the absence of such micro-organisms, *i.e.*, under aseptic conditions. 4. That under septic conditions a change can be induced which, although we are not prepared to call caries, does in some particulars resemble it."

Dr. Miller, of Berlin, concludes a number of most elaborate and scientific papers on "Biological Studies on the Fungi of the Human Mouth" with the following conclusions: 1. The observations of Leber and Rottenstein that micro-organisms are constantly present in decaying dentine, has been confirmed (Wedl, Milles, Underwood, Miller). 2. The softening of dentine in caries has been shown to be chemically identical with that produced by certain weak organic acids (Miller, Jeserich, Bennefeld). 3. It has been established that various organisms found in the human mouth produce the decalcifying acid by first converting non-fermentable sugars into fermentable varieties, and secondly, by splitting fermentable sugars into lactic acid (Miller, Hueppe). 4. The same organisms have been found capable of dissolving decalcified dentine, while they have no apparent effect even after

* Read at the Annual General Meeting of the Association in Cambridge, 1885.

two or three years on sound dentine (Miller). 5. Caries of dentine, chemically and morphologically identical with natural caries, has been produced outside the mouth (Miller).

It has been furthermore shown that certain of the organisms of the human mouth are capable of developing under the exclusion of air, thus making it possible for them to propagate within the substance of the dentine.

In quoting Underwood and Milles and Miller, it is not my object to raise a discussion on the theory of caries, but rather to lay before you as tersely as possible the fact that micro-organisms, if they do not by their presence altogether explain the cause of caries must, at any rate, be taken into account when we are either considering the cause of or attempting to treat the disease. It has been shown by Lister, Koch, and others, that certain agents known as antiseptics have the power of killing these micro-organisms (germicides). I have enlarged for your convenience one of Miller's last tables, published in this month's *Independent Practitioner*, in which he shows the strength of various antiseptic agents employed in dentistry.

Antiseptic Agents.				Development of Fungi prevented.
Bichloride of mercury	...	...	...	1 in 100,000
Nitrate of silver...	...	...	...	1 in 50,000
Peroxide of hydrogen	...	...	...	1 in 8,000
Iodine	...	...	...	1 in 6,000
Iodoform	...	...	...	1 in 5,000
Naphthalin	...	...	...	1 in 4,000
Salicylic acid (crystals)	...	...	...	1 in 2,000
Oil of mustard	...	...	...	1 in 2,000
Benzoic acid	...	...	...	1 in 1,500
Permanganate of potash	...	...	...	1 in 1,000
Eucalyptus	...	...	...	1 in 600
Carbolic acid	...	...	...	1 in 500
Hydrochloric acid	...	...	...	1 in 500
Biborate of soda	...	...	...	1 in 350
Arsenious acid	...	...	...	1 in 250
Chloride of zinc...	...	...	...	1 in 250
Lactic acid	...	...	...	1 in 125
Carbonate of sodium	...	...	...	1 in 100
Listerine	...	...	...	1 in 20
Alcohol	...	...	...	1 in 10
Chlorate of potash	...	...	...	1 in 8

We ought to extract from these investigations the points of practical value in our every day practice, and by clinical evidence confirm the experimental researches. It is not unreasonable to

suppose that a modification of that system of antiseptics which has revolutionised modern surgery, should prove beneficial when adapted to dentistry.

In the "rubber-dam," although intended originally to keep cavities free from moisture during the introduction of gold, we recognise, perhaps, the most important agent concerned in the successful application of antiseptics to dental surgery. By its means the tooth under treatment is, as it were, isolated from its surroundings. The saliva, with its contents, in solution and suspension, is no longer a dreaded foe. Antiseptic and remedial agents applied to the cavity have their full effect without any liability to dilution or risk of their physiological effects being neutralised or destroyed.

Most of the writers on antiseptics in dental surgery confine their remarks to their successful antiseptic treatment of the pulp and the pulp cavity, but is there any reason why a cavity in a tooth with a live and unexposed pulp should be denied that treatment with antiseptic precautions which is found so beneficial in cases of death or exposure of the pulp. I think it will not be out of place if I detain you for a few minutes to give you the rough outline of the treatment I adopt in a simple cavity. In the first place I roughly cut down any overhanging walls of enamel, and wash all the loose débris from the cavity by means of a syringe charged with warm carbolic lotion (1-40). The rubber dam is applied to the tooth, and the cavity again freely washed with warm carbolic lotion. This is a wise precaution, for if neglected and the cavity is immediately dried with dry cotton wool, the fluids will be removed from the cavity, but the solid portions of the débris will be plastered to its walls. The carbolic acid may be warmed, and rendered less irritating by passing the wool saturated with the acid through the flame of a spirit lamp. For drying cavities I much prefer wool to amadou. To test the cleansing power of the latter agent I placed some saliva upon a glass slide, and wiped it off with a piece of amadou which had been selected as being extra good. I was surprised at the amount of débris which was left attached, and which did not require a microscope to demonstrate its presence; similar débris would no doubt remain in a cavity to the prejudice of the filling, if amadou had been employed to dry it. The same experiment was repeated with a little antiseptic cotton wool, and no deposit of cotton could be seen even with a one-fifth inch objective,

proving, I think, that cotton wool is a far safer material than amadou to use for drying cavities.

We are told "that the micro-organisms extend into the tissues as far as does the caries," so that our object in the preparation of a cavity for filling is to remove, as far as possible, all the infected tissue, of course endeavouring to avoid injury to the pulp, even if we suspect that the dentine covering the pulp is an infected area. Since the tooth is being treated antiseptically, a slight traumatic exposure of the pulp produced by an excavator, which would under septic conditions be a most serious complication, will not matter, and will heal up without any trouble, provided that an antiseptic cap or plug is inserted into the cavity. Having completed the excavation of the cavity, I wash the cavity, tooth, and surrounding dam with a saturated solution of iodoform in chloroform and introduce a pledget of wool (soaked with the solution) into the cavity, leaving it there until I am prepared to commence the insertion of the plug, when I again wash away all excess of iodoform with pure chloroform, and consider that my cavity is quite ready to receive the plug.

All bright steel instruments must be kept out of the way of the iodoform and chloroform solution. The free iodine which is present in the solution rapidly eats away the bright lustre from the steel, and penetrates so deeply into the substance that it is only with difficulty, if ever, removed. In order to save the steel instruments, the solution may be carried to the required tooth in the following manner—a glass tube open at both ends is taken between the thumb and middle finger, and one end dipped below the surface of the iodoform solution, when the opposite end is closed with the forefinger. The tube is now removed, and the fluid in the bottom of the tube is retained in position, and may be conveyed to the tooth upon which it is liberated by removing the finger.

It need hardly be said that all instruments used should be kept scrupulously clean and frequently made aseptic. They should not be allowed to lie together or be thrown anyhow upon the bracket table, but each should be carefully wiped after using, and consigned to its allotted place.

I pursue a very similar method of treatment in the case of teeth whose pulp is exposed. After having removed the softened tissue as far as practicable, I apply the iodoform and chloroform solution. I then wait a few minutes and apply a solution of

iodoform and gutta percha in chloroform of about the consistency of cream. This is followed by the application of a cap to the exposure made of Hill's gutta percha, first warmed in the spirit lamp and afterwards dipped into the solution of iodoform and gutta percha. Any air that may remain behind the cap is expelled by again applying the iodoform and gutta percha in chloroform. A metal cap may be adjusted over the gutta percha one if required.

The excess of iodoform or gutta percha may be removed by the use of pure chloroform, and a permanent plug put in. Should a tooth present itself in which the pulp is dead or dying, I adopt the same principle of treatment. 1. Syringe with carbolic lotion. 2. Apply the dam and further clean with carbolic lotion. 3. Remove all the softened dentine and freely open up the pulp chamber so as to bring the openings of the root canals well into view. Any recently dead or dying pulp may be removed from the canals with Donaldson's bristles. The root canals if full of débris are cleaned by winding a short fibre of filosel silk around a Donaldson's bristle. This is made antiseptic by being dipped into carbolic acid solution (1.40), and then passed with a revolving motion down the root canals to their apices. The winding of filosel around a bristle is facilitated by producing a sharp fracture at the extremity of a bristle. The silky filosel is readily entangled in the fracture, and if made to take one or two turns up the shaft of the bristle, it becomes so firmly fixed to it that the filosel may be carried through the root canals to their apices without being displaced. I find this an admirable means of conveying various drugs and antiseptic agents to these otherwise difficult positions. Having made the root canals as clean as possible, I apply the solution of iodoform, and by means of a bristle convince myself that all the air is displaced from the canals. In a few moments the chloroform is found to have evaporated, and the iodoform left deposited in the form of yellow crystals around the walls of the canals. The iodoform and gutta percha solution in chloroform is now introduced, again using the precaution to exclude air, and before the solution is allowed to evaporate a small roll of warm Hill's gutta percha is placed in each of the canals, and will be found to dissolve in the excess of chloroform, reducing the whole to a thick pulpy mass. This concludes the filling of the roots, and the insertion of the permanent plug in the crown may be immediately proceeded with.

Care must be exercised in selecting the rubber dam to see that it is made of pure gum, for if it is otherwise the iodoform and chloroform solution will disintegrate it and make it so rotten that that part of the rubber which surrounds the neck of the tooth, will be found to become so brittle that it will crack and tear and allow the saliva to flood the cavity and so frustrate the antiseptics. I find the best rubber is that manufactured by the S. S. White Dental Company. To test the rubber I place half a drachm of the iodoform and chloroform solution in a small glass bottle, and hold one corner of a sheet of rubber over its mouth, and push the rubber forward into the bottle by means of a cork; the bottle is then inverted and the fluid falls upon the rubber slightly stretched over the cork. In a few seconds the rubber, if impure, will be seen to bulge into the bottle and a distinct rent appear. If pure, no change will be noticed.

It is my intention before closing this paper to give you the result of some observations I have made with regard to the decomposition of the solutions of iodoform. I do not look upon partial decomposition as any disadvantage, but rather the reverse, since part of the iodine is thereby set free, and we have in the same solution the distinct therapeutical effects of iodoform, chloroform and iodine combined.

In my first experiment I found by a microscopical examination of iodoform that it crystallised in flat, six-sided lemon yellow plates. I then made a saturated solution of iodoform in chloroform in a drop bottle with a ground glass cover. The examination of a drop of the solution when placed upon a microscope slide and allowed to evaporate, showed the deposit to be mostly composed of six-sided yellow crystals slightly modified, having the form of stars and rosettes, but clearly iodoform. The solution in the drop-bottle, which was of a light straw colour, was then exposed to direct sunlight and almost immediately a change was noticed; the colour of the solution changing from straw to a port wine colour. The deposit of a drop of the fluid was examined at short intervals, showing by the blue colour given to a starch solution, that free iodine was present, the microscopical examination still proving the presence of crystals of iodoform. In the course of three hours the solution had assumed a dark violet black colour and no crystals of iodoform could be recognised; their place being taken by oil-like globules and needle-shaped crystals of a dark brown colour. The free iodine can be

rapidly removed from this deposit by an air spray being directed upon it, after which no reaction is produced with the starch test, showing that the iodine has completely volatilised.

This would show that the solution of iodoform in chloroform should be used moderately fresh and kept in a dark place. The following solutions were next exposed to sunlight for eight hours :—

- (a) Iodoform and chloroform.
- (b) Iodoform and ether (pure).
- (c) Iodoform and absolute alcohol.
- (d) Iodoform, chloroform, 5% alcohol.

I found that the solution of iodoform in absolute alcohol was least affected by sunlight, and that the addition of 5% of alcohol greatly modifies the decomposition of iodoform and chloroform.

The crystals formed upon evaporation of drops of the various solutions differed—those of (a) solution were dark in colour immediately after crystallisation, but assumed the yellow colour of iodoform in the course of a few minutes, and after exposure to the air for twelve hours, completely disappeared. Microscopical appearance: iodoform crystals absent; their place being occupied by irregular comb-like crystals soluble in and imparting an iodine colour to cod-liver oil.

The crystals in (b) solution are in much larger plates and irregularly distributed. Microscopical appearance: the six-sided crystals are seen with their angles drawn out or developed into feathered or comb-like processes, which seem to predominate over the crystals. The iodoform crystals are not affected, but may be preserved for microscopical examination by the addition of cod liver oil.

In (c) solution the alcohol not evaporating so rapidly as the ether or chloroform, the crystals are much longer in forming. Microscopical appearance: the crystals are much smaller than (a and b), much more regular and not so prone to develop the processes from their angles.

A solution of iodoform in absolute alcohol remained among my bottles containing drugs, &c., for a week without changing from its straw colour.

The foregoing experiments appear to show that if we wish to have the effect of pure iodoform we should use it in solution with absolute alcohol. That when the iodoform and chloroform solution is used, it should be moderately fresh; that its decomposi-

tion is retarded by the addition of alcohol, and that we may drive away any iodine which may not be required from the deposit by means of an air-spray.

In conclusion, I observe that in commerce (*Pharm. Journal* [3] xiv. 493), Picric acid has been used as an adulteration of iodoform. It may be detected by agitating the sample with a dilute solution of caustic soda or carbonate of sodium, neutralise the filtrate with acetic acid and add potassium nitrate, when a yellow deposit of the sparingly soluble potassium picrate will be thrown down.

Notes on Cucaine.

By W. A. HUNT, L.R.C.P.Lond., &c., Yeovil.

In the January issue was published an account of the action of cucaine used hypodermically. This I have reason to know was read with much interest by many, but many put it aside as "too good to be true." I wrote that article as long ago as November, and since then I have had far larger experience with cucaine. Every statement I then made as to the nature of the drug, the method adopted in using it, the results obtained, and certain precautions advised in using it, was carefully and deliberately made, and has been fully confirmed by my larger experience, so that I have nothing to withdraw but only further results to chronicle.

As I then stated, I have never injected less than a grain, and only in one case have I used more ($1\frac{1}{2}$ gr.). I may give a few particulars of this case, as it may fairly be regarded as a good crucial test of the anæsthetic powers of cucaine used as I recommend. The patient, a woman of strong build, about 30 years of age, with massive jaws, had had the third right inferior molar broken off after many attempts at extraction by an untrained operator; three days afterwards she came to me in great pain; her mouth being difficult to open, her gum very turgid, &c., her tongue coated and she herself not in a suitable condition for taking a general anæsthetic.

I injected $\frac{3}{4}$ gr. on the outside of the alveolus, carrying my needle backwards and downwards an inch in the direction of the angle of the jaw. In two seconds she became free from pain, and did not feel the prick when I injected the second $\frac{3}{4}$ grain on the inside. I slowly and with great force drove down my elevator and removed a large bifurcated root without the slightest pain to

the patient, and no agent I am acquainted with would have given such a result.

A short time after this I had to attend a patient who had cut his lip open, the result of a bicycle accident. I made a paste of $\frac{1}{4}$ gr. of cucaïne, in a drop of water, and put it into the wound. By the time I could thread my needle the lip was perfectly numb, and I passed my stitch without the smallest pain; the patient's eyelid did not even quiver. One more point I may add, that where a living pulp is exposed and is required to be destroyed, I find the following plan succeed admirably, always supposing there is fair access to the spot, put a little cucaïne paste, *i.e.*, cucaïne and water on the exposed pulp, in a minute you may pass the needle of your injecting syringe up for a short distance, and then inject a few drops of the solution; you then treat the pulp as roughly as you like, if needful, but your patient will not suffer.

An Enquiry into Several Methods of Administering Nitrous Oxide Gas.

By FREDERIC HEWITT, B.A., M.B. Cantab.

ADMINISTRATOR OF ANÆSTHETICS TO CHARING CROSS HOSPITAL AND THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN; ASSISTANT ANÆSTHETIST TO THE DENTAL HOSPITAL OF LONDON.

(Continued from page 91.)

THE other apparatus employed in the various methods now to be detailed was of a simple nature, and will not need description.

Method 1. I have already alluded to the practice of administering a small amount of gas over and over again to the same patient. This plan has, I think, now become obsolete. The reason of such a method not succeeding is that the oxygen, nitrogen, and carbonic acid originally present in the lungs, mixes with the incoming gas, and dilutes it. By reference to the table, it will be seen that no less than 11.1 per cent. of non-successful cases was met with. On referring to my notes I find that the chief differences observed between this plan of giving gas and the ordinary method were, that the period of anæsthesia was much shorter, and that the narcosis was attained with greater excitement and struggling. No doubt better success might have been achieved had each patient been directed to expire as forcibly as possible before inhaling the two gallons of gas; but this precaution was

purposely omitted. It is probable that the most deleterious factor in this method is the oxygen of the residual air, which is allowed to mix with the gas to a considerable extent ; for, as a rule, there was a want of that lividity of countenance which is so common under ordinary circumstances, and which disappears so rapidly when oxygen is admitted to the lungs. It will be seen that the average number of total respirations required to produce anæsthesia in the successful cases was 44. In the non-successful cases as many as 60 or 70 respirations were sometimes recorded, and even after this number, pain during the operation was frequently felt, and in one or two cases there seemed to be greater prostration than is usually evinced when the ordinary (extrinsic) method of respiration is adopted.

Method 2. Having studied Mr. Coleman's article in the St. Bartholomew's Hospital Reports for 1869, I was led to believe that, by the absorption of carbonic acid from the expired gas, the intrinsic form of respiration would prove very successful. My experience, however, may be gathered by reference to the table. I met with 8·3 per cent. of failures. I do not say complete failures, but the results were not satisfactory. The absorption of carbonic acid apparently reduced the percentage of non-successful cases from 11·1 to 8·3. That less carbonic acid is exhaled under nitrous oxide than when atmospheric air is breathed, is evident from Mr. Coleman's figures. Professor Frankland analysed for him the nitrous oxide employed, and also some of the expired gas. The following are his results :—

" Analysis of original gas—

·103 carbonic acid.
1·540 oxygen.
6·160 nitrogen.
92·197 nitrous oxide.
<hr/>
100·000
<hr/>

" Gas collected after being respired once, lungs being previously emptied to greatest extent—

3·187 carbonic acid.
2·700 oxygen.
(A) 17·854 nitrogen.
76·259 nitrous oxide.
<hr/>
100·000
<hr/>

"Gas collected from a third expiration, lungs emptied to greatest extent previous to respiring the gas, anæsthesia commencing—

	2'346 carbonic acid.
	1'621 oxygen.
(B)	17'100 nitrogen.
	78'933 nitrous oxide.
	<hr/>
	100'000"

These figures of Professor Frankland and Mr. Coleman are so interesting that I have calculated the percentage composition of the gases other than nitrous oxide in each of these last two analyses. The following are the results :—

(C)		(D)
13'36	carbonic acid	11'13
11'37	oxygen	7'69
75'27	nitrogen	81'18
<hr/>		<hr/>
100'00		100'00

In this way the expirations from a patient under nitrous oxide are rendered more comparable with each other. I should mention that the gases collected by Mr. Coleman were not obtained from the same patient ; still, the two analyses admit of comparison to a great extent. The striking diminution in oxygen, and the somewhat less, though still obvious diminution in the carbonic acid observed in the last two calculations point to the progressive absorption of the former, and the lessened production of the latter gas. Dr. Amory* has shown by experiments upon lower animals that the elimination of carbonic acid is greatly diminished during nitrous oxide anæsthesia. It is, therefore, easy to see why the absorption of this gas makes very little difference when a limited volume of nitrous oxide is breathed over and over again. I must admit that I confess my inability to understand the success which Mr. Coleman attributed to his economical method of administering the gas. The precaution of making the patient forcibly expire before the inhalation commences is, doubtless, a valuable one when employing but a limited volume of nitrous oxide ; and the adoption of this precaution by Mr. Coleman may perhaps account for his greater success. It is however well known that the chest can only be partially emptied by the most forcible expiration, so that the remaining air must dilute the gas

* *New York Medical Journal*, August 1870.

and produce in many cases the undesirable effects alluded to in Method 1. It seems to me, therefore, that the presence of carbonic acid in such small quantities as have been mentioned can hardly make any difference in the nature of the anæsthesia induced; and even were it desirable to absorb this small amount of carbonic acid, the frequent replenishing of the purifier would offer a serious obstacle to the general employment of the method.

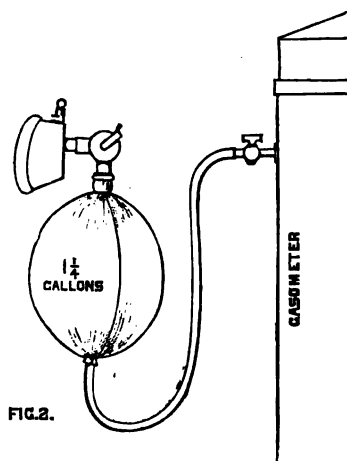
Method 3. In the next place I attempted to get rid of some of the air in the chest, by allowing a certain number of the earlier inspirations of nitrous oxide to escape by the valve before the patient breathed the remainder of the gas backwards and forwards. Only two gallons of gas were allowed to each patient, and $6\frac{1}{2}$ respirations (on an average) were allowed to escape by the expiratory valve before intrinsic respiration was permitted. A reduction to 37 per cent. of non-successful cases ensued. The reason of this improvement is clear. Less expired air was allowed to dilute the gas, and, although but a small quantity of the latter was left for intrinsic respiration, the results were more satisfactory than in Methods 1 and 2.

Method 4. The same plan was adopted, with the addition of an absorbing medium for the CO_2 produced during intrinsic respiration. Too few experiments were made to allow me to come to any definite conclusions with regard to this method. The same objection which I referred to when speaking of Method 2 is equally applicable here.

Method 5. After the above experiments it was clear that more than two gallons of gas were necessary for the induction of satisfactory anæsthesia in all cases. The question arose, how much more? Three and a half gallons were now employed for each patient, and the percentage of non-successful cases was 5.5. (See note on Table 1.) The average total number of respirations required in the successful cases fell from 45 (Method 3—when only two gallons of gas were employed) to 42. It should also be observed, that in Method 3 the average number of expirations allowed to escape in each case was $6\frac{1}{4}$. In the method under consideration $11\frac{1}{2}$ was the average number—in other words more residual air was got rid of. The presence of a larger amount of residual air in Method 3 necessitated a greater number of respirations before anæsthesia became established.

Method 6. In considering the foregoing results, the following facts became apparent. Firstly, that some patients require but a

very small volume of gas, and hence, if we use $3\frac{1}{2}$ gallons for **each** patient, we shall, in some cases, be employing more than is **neces-**sary. Secondly, that some patients who, under the ordinary method of administration, would require, let us say, about 15 or 16 gallons of gas, would probably fail to be thoroughly narcotised (*i.e.*, as thoroughly narcotised as they would be by the ordinary method) when $3\frac{1}{2}$ gallons were employed in the manner above described. Considering these facts, I commenced another series of observations, and I have been particularly gratified by the results. In fact, the method which I shall now mention is **one** which I have constantly adopted since I first tried it experimentally. I interpose a small bag holding $1\frac{1}{4}$ gallons (see Fig. 2)



between the reversible facepiece and the gasometer. By turning on the tap of the gasometer and shutting off the two-way stopcock, the bag becomes distended with gas, for the latter is allowed to issue from the gasometer under slight pressure. Extrinsic respiration first takes place (the apparatus being arranged as in the woodcut), and gas passes from the gasometer through the bag, and out at the expiratory valve, till some evidences of commencing anæsthesia appear. Amongst these evidences I reckon deep breathing, slight upturning of the eyes, commencing lividity, or slight insensibility of the cornea. When such a stage has been reached, the action of the facepiece is reversed by pressing down the sliding rod, and the tap of the gasometer is simultaneously shut; the patient now breathes in and out of the

bag, which has been kept full hitherto by the influx from the gasometer at each expiration of the patient. Intrinsic breathing is allowed to go on till the ordinary signs of profound anæsthesia supervene. It will be seen that *the average amount of gas per patient in one hundred cases was three and a half gallons, and in every case perfect anæsthesia was induced.* Although only one hundred cases are chronicled in the table, I have employed this method on many more occasions; but, as will be seen in the Note upon Table I., I have only recorded fully observed cases. The average number of respirations required to induce anæsthesia was 33·7 in the 100 cases; whilst in the ordinary method (Method 7) 29·2 was the average number. The importance of this comparison will be recognised subsequently.

Thinking it would be of interest to analyse the gas breathed during intrinsic respiration (after extrinsic breathing had been allowed for some time) I asked my friend, Dr. Percy Frankland, to help me in the matter, and he has performed some analysis for me. He also very kindly placed his laboratory at my disposal, and, in the first place, I made an analysis of the gas used at the National Dental Hospital, to which I was then attached. It was supplied by Messrs. Coxeter, and the following are the results of its analysis :—

$$\begin{array}{r}
 98\cdot25 \text{ ON}_2 \\
 \quad 23 \text{ O} \\
 \quad 34 \text{ CO}_2 \\
 \quad 1\cdot18 \text{ N} \\
 \hline
 100\cdot00
 \end{array}$$

Three patients were anæsthetised by Method 6 (Fig. 2), but a bag holding 2 gallons of gas was used instead of one holding 1½ gallons. The administration was conducted in the manner just described, anæsthesia being pushed in each case to its fullest extent. The following Table will show at a glance the number of respirations in each of the three cases :—

TABLE II.

Administration.	Number of expirations allowed to escape by expiratory valve (extrinsic respirations).	Number of to and fro respirations (intrinsic respirations) into a FULL 2-gallon bag.	Total number of respirations required to induce profound anæsthesia.
1	13	20	33
2	25	8	33
3	23	17	40

In Table III. will be seen the results of the analyses of the contents of the two-gallon bag in the three administrations mentioned in the above table. The figures in the second half of Table III. are calculated from those in the first half. By means of this calculation, it becomes easier to appreciate the relative proportions of oxygen and carbonic acid in the gases yielded by the lungs. Now, if it be wished to institute any comparison between Mr. Coleman's results and my own, such a comparison can only be made by calculating in each case the percentage composition of the gases other than nitrous oxide. For, in Mr. Coleman's cases single expirations were analysed, whilst in the above experiments the contents of a two-gallon bag, into and from which a certain number of respirations took place, were taken for analysis. In other words, Professor Frankland's figures in C and D are more or less comparable to those in the second half of Table III.

TABLE III.

RESULTS OF ANALYSIS OF CONTENTS OF 2-GALLON BAG.			
	Adm. 1.	Adm. 2.	Adm. 3.
CO ₂	2'35	'64	1'47
O	2'41	1'22	1'90
N	14'47	8'98	9'45
ON ₂	80'77	89'16	87'18
	100'00	100'00	100'00
PERCENTAGE COMPOSITION OF GASES OTHER THAN NITROUS OXIDE IN 2-GALLON BAG.			
	Adm. 1.	Adm. 2.	Adm. 3.
CO ₂	12'22	5'90	11'46
O	12'53	11'25	14'82
N	75'25	82'85	73'72
	100'00	100'00	100'00

The principles involved in Method 6 may be applied to the administration of gas when the ordinary gas-bottle is employed. The reversible face-piece may be adapted to the apparatus commonly in use; but, as the ordinary Catlin's bag is very capacious—holding from three to four gallons—there is often an unnecessary waste of gas, and the large bag, when distended, is

frequently in the way of the administrator. Again, when intrinsic respiration is taking place, a slight impediment to breathing is likely to be encountered, as the bag is at some distance from the face-piece. In Fig. 2 it will be seen that, during intrinsic respiration, no such impediment can exist, for the bag is near the face-piece.

Great discrepancy of opinion still exists with regard to the most suitable size for the gas-bag in the ordinary method. I am told by Mr. Barth that he is now making a great many bags according to Mr. Coleman's latest views. Mr. Coleman recognized the advantage in having the bag near the face-piece, and he also advocated the employment of a bag holding about one gallon of gas. This bag, which is fixed next to the two-way stopcock, is placed in communication with the gas-bottle by a long piece of tubing of small calibre, so that the bag is far away from the ground, and out of the way of the anæsthetist; a supplemental bag may also be attached to the face-piece.

Now, there is but a small step between such a plan of administration—when a supplemental bag is used—and the method which I have advocated. I contend, however, that there is a great advantage in having but one bag, which can be used at any moment as a supplemental bag. The difference in size between the ordinary supplemental bag and that which I have suggested—viz, one holding $1\frac{1}{4}$ gallons—may, and I believe does, make some difference in the length of the resulting anæsthesia. I do not think the difference is great; but, even though it be no greater than a few seconds, it must often prove of considerable value. This point will be referred to subsequently.

From the above considerations I am of opinion, that if gas is to be administered from a gas bottle, according to Method 6, the bag should not be too large, and, that it should be fixed near the reversible face-piece; in other words, a similar arrangement to that of Fig. 2 (substituting a gas-bottle and long narrow tube for the gasometer and wide tube) will answer perfectly well. The proximity of the bag to the face-piece is of great advantage during intrinsic respiration; for the anæsthetist is enabled to watch the ingress and egress of gas. Attention has, on more than one occasion, been called to the fact that the respiratory movements—the expansion and contraction of the chest-wall—are not always to be relied upon as indicating the passage of air (or gas) into and out of the lungs.

(To be continued.)

HOSPITAL REPORTS AND CASES IN PRACTICE.

After Treatment of Extraction.

By H. LLOYD WILLIAMS, M.R.C.S., L.D.S.Eng.

HOUSE SURGEON TO THE DENTAL HOSPITAL OF LONDON.

IN the vast majority of cases which come before us, the simple extraction of the offending tooth gives relief; in a few cases, however, the result of the treatment is not so satisfactory. The pain persists, the patient suffers even more after than before the extraction, obtains no sleep, loses appetite, and becomes, in fact, truly miserable. These cases are difficult to treat, and the following record of two which were successfully treated at the Dental Hospital of London last summer, will, I am sure, prove interesting to your readers.

CASE 1.—Mrs. G., aged 42, under Mr. Claude Rogers, July 27th, 1885. She came complaining of constant severe pain since extraction of tooth ten days previously. Her skin was sallow and dry, and she wore an aspect of suffering and exhaustion. She had taken no solid food since the operation. The gum around the socket was tumid and congested, there were no remains of the tooth. The socket contained foetid pus and the bone was denuded. Hot poppy head fermentation was ordered.

29th. Patient had experienced no relief. Mr. Rogers advised the careful application of chloride of zinc, just deliquesced, to the sides of the socket. This was done (after thoroughly syringing the parts with weak solution of permanganate of potash). A pledget of cotton wool soaked in a solution of chloride of zinc (gr. xx. to 3i), was left in socket.

30th. Sockets looking better. Patient had been easier and had obtained a refreshing sleep. Strong chloride of zinc re-applied and dressing placed in socket as before.

31st. Dressing less offensive, but patient complained of a stinging pain—this I ascribed to the chloride of zinc.

August 1st. Pain since application of yesterday. The strong zinci chlor. was discontinued, and the pain was relieved by an application of tinct. opii.

4th. No pain and patient feeling comfortable. She was instructed to syringe the socket twice daily with a weak solution of Condy's fluid. She was seen in a week's time, when she expressed a desire to discontinue attendance as she was quite free from pain. Discharged cured.

CASE 2.—W. F., æt. 26, under Mr. Truman, July 31st. Com-
plained of great pain, without intermission, since the extraction
of second right lower molar on the 27th. At the time of extrac-
tion a portion of anterior root was fractured and left behind. The
gum around was much inflamed, and the posterior socket con-
tained foetid purulent matter.

Treatment.—The sockets were syringed out with a weak solution
of Condyl's fluid and zinci chlor. applied as in the previous case.
A dressing of solution of chloride of zinc was left in socket.

August 1st. Patient had suffered no pain since application of
the previous day, and said that he had slept for the first time since
the extraction. Mr. Truman advised leaving the rest to nature.
The patient came in a week. No return of pain.

Remarks.—These two cases are both interesting and instruc-
tive; the former has been recorded at length, because, although it
shows a mistake, namely, the too frequent use of zinc chloride,
it also shows how it may be avoided. The latter illustrates the
good effects of the treatment without any of its ill effects.

Mr. Tomes recommends a solution of glacial carbolic acid and
liq. potasse for such cases. Personal experience inclines me to
doubt its value.

In all the cases of continued pain after extraction that I have
met with, the patients have been suffering from severe periodon-
titis at the time of extraction, consequently our efforts ought under
such circumstances to be directed towards the prevention of this
after pain. It is impossible, of course, to tell whether pain will
follow in any particular case, and consequently it is difficult to
appreciate any advantage which may have been gained by prophylactic
treatment. I am convinced, however, that pain has been
prevented in such cases at this hospital where a solution of car-
bolic acid in glycerine (equal parts) has been applied to the
socket immediately after extraction.

Notes on Case of Deaf and Dumb Boy with loss of Palate, &c.*

By WRIGHT WILSON, F.R.C.S.

JOHN HERBERT HARRISON, aged 4, came under my care
at the Ear and Throat Hospital on February 22, 1879, having
been nearly deaf for two years. He was suffering from papillary

* Read before the Central Counties Branch, January, 1886.

growths in the post nasal region and had two holes in his soft palate, one in the centre, just above the uvula, and the other at the junction of the soft and hard palate. They were both on the middle line. He had true Hutchinsonian teeth, and there were cicatrices nearly all over his head. He was under treatment for two or three years, was taking an iodide of potassium and iron mixture, and having the edges of the holes touched with caustic, &c., occasionally. He bore the iodide very well; his appetite increased, he grew and became quite stout. Still the holes got larger until there was only a bridge of mucous membrane between them. This I divided. Pieces of bone came away, but I could not get to see them. Six months ago I was applied to by his father to see whether something more could not be done for him. I found on examining him that the premaxillary process (with the incisor teeth) was quite gone, and the soft palate had entirely disappeared; but the disease was apparently stationary. On questioning the father I found that he suffered himself from a secondary glaucoma, which resulted from an iritis. He denied that he had ever had syphilis. I then saw the mother. She had never had it. I found she had only two children, both of them were alive. Then I saw the daughter, who is two years younger I believe. She had no trace of hereditary mischief about her. I took the boy to Mr. Breward Neale and asked him to do something for the relief of the condition. I have no doubt in my mind that this is a case of hereditary syphilis, but there was no history of any contagion, only the physical condition of father and son told its own tale.

Case of Necrosis in the Upper Maxilla.

BY F. HAMPTON GOFFE, L.D.S.Eng. and Edin.

ASSISTANT DENTAL SURGEON TO THE BIRMINGHAM DENTAL HOSPITAL.

SOME time back a strong healthy boy, *æt.* 11, presented himself, saying that "when he went to pick his tooth a large piece of the jaw and several teeth came away."

His father said there had been great swelling for some time and the offensive smell was a great source of annoyance, but he had had no pain and his health was remarkably good.

I found the sequestrum included a large piece of the left upper jaw, and first permanent molar and second bicuspid and the second temporary molar. The first bicuspid being in position but loose.

On examination of the jaw I saw there was great swelling on the left side but very little inflammation or pain where the sequestrum had been, but by the canine and lateral there was considerable inflammation and a sinus exuding pus, and the teeth were loose, which lead me to fear that another sequestrum must come away, and this actually took place about three weeks after the exfoliation of the first piece bringing with it, most unfortunately, the canine tooth.

I gave him some potassic permanganate and directed him to get a syringe and keep the cavity quite clean, which he has done, and the swelling is now going down very nicely without any trouble and the first bicuspids and lateral are now getting firm.

The remarkable point in this case is the absence of any apparent cause for the necrosis. It resembled phosphorous necrosis, but no history pointing in this direction was forthcoming. There was entire absence of any pain, and the health and appetite of the boy kept remarkably good. There was no history of syphilis.

[This interesting case suggests two recent communications at the Odontological Society of London, in which the sequestra followed shortly after an attack of measles. Perhaps Mr. Goffe would add to the interest of his case by informing us if his patient had ever suffered from any of the exanthemata.--ED. J.B.D.A.]

A Unique Abnormality.

Communicated by ARTHUR S. UNDERWOOD, M.R.C.S., L.D.S.

At a recent meeting of the Students' Society of the Dental Hospital of London, one of the students, Mr. Handley, exhibited a model of an abnormality, which is perfectly unique as far as I can discover, and which is of the very highest possible interest clinically and scientifically, I therefore obtained Mr. Handley's permission to illustrate and describe it in the Journal of the Association. The patient was a girl about 16 years of age; she had previously undergone an operation for hare lip and cleft palate; there was no abnormality in the lower jaw; unfortunately, as the model was taken some years ago and the patient has been lost sight of since, no further particulars are forthcoming, but Mr. Handley's father who attended her remembers no undue growth of hair or other peculiarity. A reference to the diagram will show the following facts:—

(1.) On the left hand side of the diagram there are six fully

formed bicuspid. They are of natural size and shape, four are in the arch, two (Nos. 7 and 8) inside it. No. 5 is half turned round so that the labial surface looks forwards.

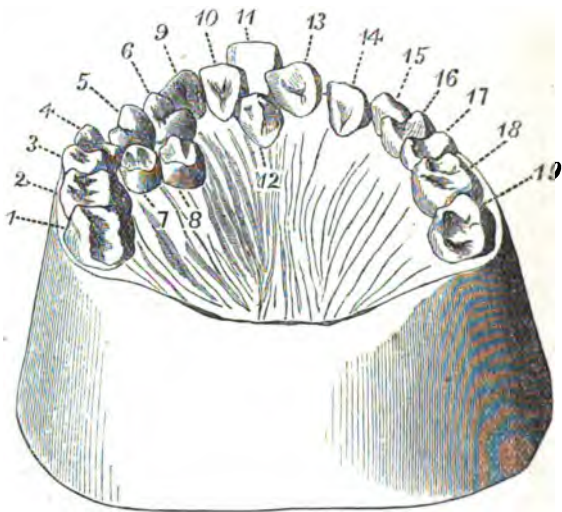
(2.) A supernumerary tooth somewhat indented (No. 12) is present behind the left central.

(3.) There are no teeth missing in the upper or in the lower jaw.

(4.) The canines have not marked inner cusps.

(5.) Between the left lateral and canine, probably in the situation of the old cleft, is a small abortive incisor (this I could not show in the figure without sacrificing the more surprising phenomena.)

(6.) There is no kind of transitional form between the bicuspid and the canine.



I have shown the model to some of the most experienced dental surgeons in London, and the case has been pronounced absolutely without any parallel by all of them. This pathological treasure had remained, however, unpublished for years, and this fact leads me to hope that its description may lead to the unearthing of other abnormalities by some of the readers of this Journal. It is by the freaks of nature that we may sometimes guess at her secrets, and in her lighter moods she often drops hints about the mysteries of her evolution just as we ourselves may betray the secret workings of our thoughts in moments of excessive gaiety or of undue fatigue.

REPORTS OF SOCIETIES AND OTHER MEETINGS.

Odonto-Chirurgical Society of Scotland.

THE annual meeting of this Society was held on Friday, March the 12th, at 2 p.m. W. BOWMAN MACLEOD, L.D.S.Ed., President, in the chair.

At the second meeting of the Session 1885-86, in the Society's Rooms, Edinburgh, after the reading of the minutes the President announced that the discussion upon Mr. H. H. Edwards' paper (published at page 725 of last volume), on the "Missing Incisors in Man," would be then taken.

Mr. WILSON said he had listened to the reading of the paper with much pleasure, and he was very much pleased to learn that the short paper he had read to the Society in March had had the effect of bringing into the field such a close observer and skilful artist as Dr. Edwards. After criticising the cases quoted by Mr. Edwards in detail, he remarked that as regarded the use of the term "geminous tooth," or as more frequently styled germinated, there were three forms—1st, lateral union of both crowns and roots; 2nd, union of crowns, roots more or less distinct; and 3rd, crowns more or less divided, roots united; the existence of one or more pulp cavities and canals, depending on the extent to which the conjoined teeth had lost their individuality.

The quotation from Dr. Thomson's paper, however well it might apply to members liable to hypertrophy or atrophy, according as the individual used them, bore little on the subject before them. Hereditary defective structure was extremely general, but certainly not any prevalence of aberrant, or rudimentary forms. Conoid laterals, bicuspid, and third molars are still in a small minority.

It might be said that want of use leads to defective development of the jaws, and that, in turn, to suppression of certain teeth owing to want of room, but this conclusion is largely an assumption.

Undoubtedly rudimentary forms in certain teeth, as also suppression of the same, are hereditary more or less for a generation or two, but the customs of civilised man do not encourage their persistence. In the lower animals either could readily be made a permanent variety.

As to the suppressed incisor, being the central one, he thought that on two grounds they might put it out of court,—1st, the incisors in man being largely prehensile, and the centrals normally the strongest and most important, they should be the last to be suppressed; 2nd, when five or six incisors are present, it is very exceptional for more than two (the centrals) to be of the central type.

No conclusion can be drawn from the period of eruption, as in the permanent series the overcrowding frequently leads to the retarded eruption of the centrals long after the laterals and supernumerary teeth were in place. In two cases of extra incisors, which came under his own observation, the middle or second incisor erupted after both the central and outer incisor were in place. While in the third all four laterals were more or less advanced (the outer ones most so) before the centrals erupted.

In the temporary series there was little irregularity produced by their presence, but there seems a strong tendency to the extra incisor being geminated to one or other of the normal ones.

What he regarded as the typical form of the lateral incisor was just that described by Dr. Edwards. It differs from the central (taking its labial aspect only) in being more V-shaped, in its lateral convexity being greater and most pronounced nearer to its mesial side, and in being shortened to and rounded off at its distal cutting edge.

Digressing to the missing premolars, his own observations would lead him to say they were the third and fourth.

As regarded the supernumerary teeth not unfrequently met with to the buccal surface of the molars, he was rather puzzled, having met them between the first and second, second and third, and in one case to the distal side of the third molar. He had also met with a few cases in which they were geminated with one or other of the molars. So far as he had seen they differed considerably in form from those met with in the front of the mouth.

Mr. AMOORE dissented from Mr. Edwards in his opinion that of the incisor teeth, the centrals would be the most likely to be suppressed first. To quote from his paper—"The incisors are the teeth of prehension, and the centrals naturally are the most prehensile; therefore, if suppression has taken place through disuse, I infer that the original centrals would be the first to disappear." Now, if suppression has taken place, it would surely be the less used side teeth which would disappear previous to

their more serviceable central neighbours. This view is borne out by references to comparative dental anatomy, where the side teeth sometimes become quite rudimentary or are lost, while the centrals often rather developed and increased in size and strength.

He then exhibited a model of a well formed upper jaw in which there were two teeth erupted buccally between the second and third molars, and which tallied exactly with a similar case referred to and described by Mr. Edwards. One of the supernumeraries had been extracted and showed a conical root, while the crown more resembled a bicuspid than a molar, and he could scarcely believe that they were representative of a lost third pre-molar, springing up in this out-of-the-way position; he thought it rather straining a point, whenever a supernumerary tooth appeared, to give to it a place as a reappearance, in imperfect form, of a tooth once commonly present but now suppressed. In the same way he differed from Mr. Edwards, in so often assigning as a reason for spaced teeth, that it was an effort on the part of nature to allow room for a tooth once present in the jaw, but now absent. This was notably the instance in Case 5, in which a space existed between lateral and canine on the one side of the mouth only, and, as had been remarked, was more likely to have been caused by an irregularity in the development of the bone at the intermaxillary suture—or possibly the undue retention of a temporary tooth on that side or it might even be due to an irregular articulation with the lower jaw. How common it was to find, when the laterals were absent, that the centrals were spaced, and when, during the eruption of incisor teeth in children, a long interval of time elapsed between the appearances of the centrals and laterals, the centrals often remained with wide spaces between them until the laterals came down, when the space gradually closed up. He possessed models of a typically well formed and faultless mouth and jaw, with the teeth all present but on either side between the canines and the first bicuspid there existed well marked spaces. From their position he would attach no significance to the circumstance, attributing it rather to the effect of the articulation with the lower jaw than to any other cause. Returning, however, to the missing incisor again, he had a case in which a temporary supernumerary lateral was succeeded by a supernumerary permanent lateral, in either case it being impossible to determine, from the crowns, at all events, which was the extra tooth.

With regard to the carved ivory model of a lateral tooth, he was inclined with Mr. Wilson, to think it more probably a double rooted lateral than a geminated tooth.

After several members had taken part in the discussion, the PRESIDENT said that nobody would be more pleased than Mr. Edwards himself in reading those opinions which differed from his own. The whole of the paper was more or less a tentative one, expressing views which might reasonably be deduced from facts accompanying it, but by no means claiming for these views the value of demonstrated deductions. The great object Mr. Edwards seemed to have in his paper, was to contribute a few more facts bearing upon an interesting and much neglected vein of research, in order that interest in it might be further awakened and perpetuated in this direction, and tend to the collection of such a mass of instances and illustrations as would furnish a sufficiently broad basis upon which to build a conclusion. The paper had most admirably fulfilled its purpose, and he hoped that they would be frequently favoured with communications from their youngest corresponding member.

Mr. WATSON then exhibited some slides by means of the Lime-light Lantern Microscope.

To fit up this lantern for the microscope, the ordinary objective is removed, and the microscope lenses and apparatus screwed on, the objectives used on this occasion being 150, 90, and 30 diameters, on the relative value of which, in connection with the lantern, some remarks are made further on. One of the most ingenious contrivances in connection with it was the method by which a continual supply of oxygen could be maintained without the inconvenience usually attendant when bags are employed. The gas-holder consists of a bell capable of containing about $1\frac{1}{2}$ cubic feet of gas, inverted in a water chamber below, holding a good sized bucket full of water. This arrangement when in use serves as a stand for the lantern, and when emptied for travelling, the lantern can be packed away within it. The supply of oxygen is obtained from heating, by means of a bunsen burner, a cake made of powdered chlorate of potash, and the black oxide of manganese enclosed in a strong iron retort, whence the oxygen is evolved and conducted by a tube into the gas-holder; when more gas is required, another cake is supplied, and the process repeated, and thus a persistent

supply of the gas can be maintained as long as desired. The exhibition was a very interesting one.

Later on, Mr. WATSON exhibited some excellent photo-micrographs of the dental structures.

The Dental Hospital of London, Leicester Square.

THE meeting of Governors of this Institution was held on Thursday, 11th of March, at five o'clock, Sir Henry J. Peek, Bart., J.P., one of the Vice-Presidents, in the chair, to receive the annual report and to elect the committee and auditors for the ensuing year.

The Annual Dinner of the Staff and Past and Present Students of the Dental Hospital of London.

THE students' dinner was held this year at the Holborn Restaurant, in the Venetian saloon, on Saturday, February 27th. The meeting was in every way a great success. Once more the committee had succeeded in obtaining the services of an eminently popular and representative chairman in Mr. Woodhouse Braine, whose long and intimate connection with the profession and the school fitted him admirably for the genial task of presiding at the annual dinner.

The musical programme which has, under the management of Mr. David Hepburn, gradually grown to be a leading feature at these meetings, was unusually attractive. Messrs. Wood, Bell, Grylls, Burlison, and Twyford Taylor, once more gave their kind help, while those present, enjoyed for the first time, the privilege of listening to Mr. Woolhouse's delightful violincello playing, and Mr. Ivimey's delicate handling of the violin. The late dean said grace in his new capacity of priest.

After a capital dinner the usual loyal toasts were proposed from the chair, Mr. Braine prefacing his remarks by some excellent general orders amongst which were, that no speech should exceed three minutes in duration, and that the diners should be at liberty to move about from place to place and chat with old friends as fancy should direct. Mr. Blackmore then sang a Bedouin love song with great taste. The toast of the army and navy and

auxiliary forces, proposed by the chairman and responded to by Mr. Andrew Clark of the West London Rifles and Dean of Middlesex, was followed by "The Skye Boat Song," a solo by Mr. David Hepburn with chorus.

In proposing the toast of the evening "The past and present students," the chairman referred in eloquent terms to what the past students had done in raising the profession to the position it now occupies. For the present students he would let facts speak for themselves. At the last examination but one for the L.D.S., only one man was plucked out of thirteen, and at the very last examination every one of fourteen passed. Mr. Braine then alluded to the special responsibility that lay upon the shoulders of the dental student, who had to do with his own hands so much of the absolute work of the hospital.

MESSRS. ACKERY and RYLOT replied in becoming terms respectively for the past and present students, after which a glee "Integer Vitæ" was sung, and Mr. Woolhouse performed a charming solo on the violincello.

The Rev. T. F. KEN UNDERWOOD then proposed the "London School of Dental Surgery and Lecturers," the scene of his old labours, and this toast was replied to by the present dean, Mr. Smale; after which Dr. Casson's beautiful glee, entitled "Floreant Alma Mater" (written expressly for Middlesex Hospital), was performed with great effect. Mr. Alfred Smith, who has probably never been heard to greater advantage, sang Pinsuti's "Last Watch," and in response to a rapturous encore followed it with "Tom Bowling."

Mr. CARTWRIGHT next proposed "The Dental Hospital and staff," of which he was a member at the commencement of the institution.

Mr. MOON replied, and then followed the musical *pièce de résistance* of the evening in the form of Romberg's "Toy Symphony," which Mr. Grylls contrived to conduct to a successful issue, notwithstanding the quaint peculiarities of some of the instruments.

To Mr. BAILEY was entrusted the toast of the Chairman, and the name of his old friend, colleague and fellow-worker, could not have been in better hands; and Mr. BRAINE's short speech of thanks conveyed the deep feeling of pleasure with which he had listened to the toast.

Mr. C. Robbins sang as well as ever in Pinsuti's "I fear no foe."

The toast of the Visitors was proposed by Mr. ARTHUR UNDERWOOD, and replied to by Mr. MITCHELL BRUCE; after which Bishop's "Push about the bottle, boys," was received with rounds of applause.

Mr. CARTWRIGHT proposed the health of those who had assisted in the music, and Mr. DAVID HEPBURN in reply, threw out hints of the possible organisation of a musical society amongst the students.

The National Anthem brought the evening to a close, and it was universally voted to have been even more pleasant than its very pleasant predecessors.

REVIEWS AND NOTICES OF BOOKS.

C. ASH AND SONS' NEW CATALOGUE, 443 pp. index. Lond : 1886.

If the advancement of a profession can be measured by the increase of its requirements, or by the rapidly improving science, skill and ingenuity with which these requirements are met and almost every want supplied, Messrs. Ash's catalogue affords ample testimony to our material progress.

The catalogue is to our minds what a catalogue should be, not a mere list of apparatus and prices, but a comprehensive, well written, well illustrated, and well arranged account of everything that can be in any way of service to a dental surgeon in the exercise of his profession. There are eight pages (435-443) which are devoted to a carefully compiled list of books bearing upon dental topics, and if any of our readers wish to form a dental library of not too exclusive a nature, they will find that the afore-said eight pages will save them much trouble in laying the foundation—we could suggest some likely additions, such as, for instance, Hill's "History of Dental Reform," the second edition of Naysmith on the "Teeth," which contains Retzius' invaluable contributions to Comparative Anatomy, Farquarson's "Guide to Therapeutics," Tanner's "Index," and others we could name; but, of course, the list does not pretend to be exhaustive. The dental practitioner may feel justly proud when he compares the literature that represents his profession to-day with that which did so twenty-five years ago, and if a survey of modern literature shows us what strides have been made in Dental Science during

the last quarter of a century, a comparison of the catalogues of the two periods reveals even a more striking advance in the Art of Dentistry. The rubber dam, the inventor of which (Dr. Barnum) has only recently died ; the burring engine, the principle of which was first employed (as our readers may not be aware) by the ingenuity of the great Scotch engineer, Sir Robert Naysmith ; the electric mallets, water motors, lights, furnaces, the use of vulcanite and still later celluloid, are all among the contributions of recent invention. New methods and new instruments meet us on every page. For the appliances of the operating room we find 230 illustrated pages. Twenty-eight pages are devoted to the nitrous oxide gas and ether, and these pages derive an additional interest from the recent painful occurrence at Swansea. We should imagine there is little demand now-a-days for the apparatus for manufacturing the gas, but possibly these pages are again inserted for the convenience of Colonial dentists. The last 112 pages are devoted to apparatus for the workroom, &c., &c., and in this department we meet Mr. Thomas Fletcher's name pretty frequently, contributing useful and ingenious appliances and modifications.

On the first page but two there is a neat little map of the principal thoroughfares surrounding Ash's depôt, but though the depôt itself is marked it is not named ; this might with advantage be rectified, as at present there is hardly anything, but a slightly thicker shading to show which building is Ash's depôt.

Much that is new has been added and a great deal of obsolete matter omitted. The type is good and so is the paper, and the illustrations have been produced with care and success, an instance of this is a very neat piece of colour printing facing page 31, and illustrating the tints of the various rubbers.

Altogether the book is thoroughly well arranged and will both do credit to Messrs. Ash & Sons, and prove a useful book of reference to install upon our shelves.

LEWIS' POCKET MEDICAL VOCABULARY, 215 pages, 12mo.
H. K. Lewis, London, 1886.

It is not too much to say that any medical man who is without this little book will do well to get it at once. It is a complete and compact dictionary of medical phrases and words. We have not been able to discover any important omissions, excepting in purely dental technicalities. The meanings are for the most part given in

a line, and the longest do not occupy more than four. Altogether the little work bears internal evidence of careful compilation, and we can with a clear conscience recommend it to all our readers. Those who practice our branch of the profession may be easily excused for being from time to time at a loss to follow a great deal of the medical nomenclature of the present day, and such a book as this will prove exceedingly handy in deciding an argument, elucidating a technical article, and most of all, perhaps, in checking and correcting the scientific terms of a manuscript before sending it to press. We could indeed wish that the little volume might obtain a circulation among our American brethren, some of whom could not fail to benefit from a perusal of its cut and dried definitions; but this, we fear, is hoping too much, the fascination of evolving a terminology out of one's internal consciousness will prove, we fear, irresistible. Still, those who will condescend to employ words in their generally accepted sense will never regret having purchased this little volume.

MINOR NOTICES.

Researches on the Physical Properties and Chemical Composition of the Teeth, and on the Relationship between their Resisting Powers in Health and Disease, with the Modifications of Nutrition.

BY M. LE Dr. C. V. GALIPPE,

CHEF DE LABORATOIRE DE LA FACULTÉ DE MÉDECINE DE PARIS, &c., &c.

DR. GALIPPE commences his work by pointing out that whatever view we may take of the causation of caries, the chemical composition of the tooth invaded must always be a factor with which we have to reckon. The conditions which precede caries are intimately connected with growth and nutrition, and the general results of acquired or inherited pathological conditions. The tooth itself possesses a power of resistance to destruction, for which Dr. Galippe proposes the name of co-efficient of resistance. The liability to caries varies in individuals and it varies in teeth, as is shown in the conditions attending gestation, nursing, &c. In brief, one tooth has more power of resistance than another; the teeth of one individual defy destruction more than those of another, and, lastly, there are times in the life of the same individual when his or her teeth are more or less susceptible to caries.

The relationship between the physical properties of the teeth, and their co-efficient of resistance in various individuals has formed the subject of the present investigation.

The first physical property touched upon is density. A careful analysis gives the following results. The density of teeth increases from infancy to maturity. During adult life it varies according to nutrition, health and disease. Our author suspects the density to be greater in man than in woman, though the number of his experiments do not enable him to make a positive statement on this point.

The milk teeth have a lower density than the permanent set. This confirms the observation of M. Ranvier, who has taught that those teeth that have the most plentiful inter-globular spaces are most subject to caries, and such teeth have a lower density than others. The density varies between the right and left side, the right having the advantage. The crowns have a lower density than the roots.

In Chapter II. Dr. Galippe points out that the density of teeth is greater or less in proportion to the richer or poorer supply of inorganic matter. At the same time this question is complicated by the fact that the various salts have not the same density.

In Chapter III. Dr. Galippe discusses the relative density of the teeth of the upper and lower jaws. He states that the average mean density of the upper teeth is greater than that of the lower teeth. During the act of mastication the lower jaw strikes and presses the upper jaw, the latter being immovable and forming an integral part of the base of the skull. This, Dr. Galippe aptly compares to a hammer striking an anvil. The force of the blow is proportionate to the power of the muscles of mastication. The lower jaw, owing to its mobility, tends to rebound from the shock, whilst the upper receives its full force. It is therefore reasonable to expect a greater resisting power in the upper teeth. It remains to be shown whether this anatomical difference of density is accompanied by a pathological liability to caries in the lower teeth. An observation, published by M. Magitot, in 1866, is quoted as throwing some light on this point. Out of 10,000 carious teeth 6,004 belong to the upper jaw, 3,996 to the lower.

M. Galippe's explanation of this enormous difference, which seems to invalidate his own conclusions, must be entered into in detail.

Among the factors of caries, the acidity of the saliva has always

been regarded as an important one. Now, although the saliva collects around and bathes the lower teeth, it has been shown by Boudet (1842) that it more frequently possesses an acid re-action around the upper than the lower incisors. The very accumulation of the fluid tending to neutralise its acidity in the latter situation, or at any rate to reduce the acid re-action to such a degree as to render it of small importance. The upper teeth, on the contrary, are liable to conditions much more favourable to the development of local fermentations, the products of which are not so constantly removed, and have therefore more opportunities to exercise their destructive functions on the enamel. The saliva varies in its re-action in a manner not fully understood. This question will receive further attention; it will suffice at present to summarise it thus: Febrile conditions are usually attended with an acidity of the saliva which disappears with the fever. Other affections, not febrile, also produce an acid re-action in the saliva (digestive disturbances and the like). In certain febrile affections the saliva is at one time acid, and at another alkaline. In 1879 M. Galippe, assisted by M. Moreau, showed that the saliva in hæmorrhagic smallpox and diphtheria was sometimes alkaline. It follows then, that when any one of these causes gives rise to an acid re-action, though upper and lower teeth both suffer, the upper teeth suffer the most. Sometimes the acidity of the saliva is so considerable that the organic substance is absolutely destroyed, the pulp involved, and much suffering to the patient the inevitable consequence. In view of these facts, the question arises whether we have to deal with a chemical decomposition resulting in the liberation of a free acid, or with a phenomenon of fermentation; is the saliva secreted in this acid condition? In spite of the frequent and prolonged use of concentrated alkaline solutions, the saliva regains its acidity with such rapidity that it suggests the plausible explanation of fermentation. Dr. Galippe then recounts the following experiment. He introduced into the mouth of a patient, the extreme acidity of whose saliva had destroyed all the teeth, a large foreign body with the immediate result of provoking an abundant flow of saliva which was found to be at first alkaline, then normal, and after a few instants once more acid. The experiments of Mitscherlich and Béclard upon patients suffering from a fistulous opening into Steno's duct have shown that although under certain conditions the parotid saliva becomes rapidly acid, nevertheless when secreted in abundance it

always remains alkaline ; whenever the saliva flowed slowly through the fistula its re-action was acid, but as soon as it flowed abundantly it became alkaline. There still remains some obscurity to be cleared up in this interesting question.

**Abstracts of the Erasmus Wilson Lectures on
Evolution in Pathology.***

By J. BLAND SUTTON, F.R.C.S.

ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL, AND LECTURER ON
COMPARATIVE ANATOMY.

Lecture I.—Correlation and its Effects.

DARWIN's greatest disciple in this country, Professor Huxley, has enunciated the principles of evolution in the form of three laws. Firstly, there has been excess of development of some parts in relation to others ; secondly, certain parts have undergone complete or partial suppression ; and, thirdly, certain parts, which were originally distinct, have coalesced. Huxley uses the term "law" as a general statement of facts ascertained by observation. A good example for the illustration of these laws is the female generative organs. Many forms—for example, the cirripedia, land-mollusca, &c.—are provided with male and female organs, constituting hermaphroditism. Ascending the scale of animated beings, we find, although every animal possesses, at some period of embryonic life, male and female organs in a potential form ; yet, normally, one set—either those peculiar to the male or those peculiar to the female sex—gain the ascendancy. This serves as an illustration of the first law ; that is, there has been an excess of development.

Associated with this excess, we find suppression, or more or less complete disappearance of the opposite set of organs. Thus we obtain an excellent illustration of the second law. In the ichthyopsida (fishes and batrachians), and in sauropsida (reptiles and birds), the female generative ducts are, for the most part, represented by oviducts (Müllerian), quite separate, although in birds one usually disappears. In mammals, the representatives of the oviducts fuse in the middle line through a greater or lesser extent, and constitute a median uterus. This illustrates the third law, or coalescence of parts originally distinct.

My object in these lectures is to endeavour to show that the

* Delivered at the Royal College of Surgeons.

structural aberrations of animal bodies of which pathological anatomy takes cognisance follow the same laws, which, when expressed in the terminology peculiar to that science, may be reduced to two:

1. Correlation { (a) Hypertrophy.
 (b) Atrophy.
2. Coalescence.

Correlation leads to abrogation of function, and gives rise to rudiments; these rudiments, or remnants, may serve as the germs of origin of many forms of cysts and neoplasms.

To any one who has devoted serious attention to the matter, it must be evident that the term hypertrophy has come to be used by pathologists, physicians, and surgeons in an exceedingly indefinite manner to include almost any kind of enlargement of the organs, limbs, or bones of the body, without that careful attention necessary to discriminate between simple overgrowth, functional enlargement, or increased size, the result of adventitious elements in the part affected. True hypertrophy may be defined as "the enlargement of an organ beyond its usual limits, as the result of increased function, or of some unusual condition of the corresponding or correlated organ." Before proceeding to discuss the question, it will be well to illustrate the definition with an example. Every known vertebrate normally possesses two kidneys, a right and a left one. In the case of the fowl, whose left kidney is here shown, the right one had, from some cause or other, entirely disappeared. Nothing but the ureter remained to inform us of the previous existence of the associated kidney. Such a case as this is by no means rare; I have seen it in five instances in man; also in sheep, oxen, horses, and twice in birds. The important fact in these cases is this: in all instances of single kidney, the size and weight of the persistent organ far exceed those of the normal, and in the majority of instances it is double the usual size. The kidney, in consequence of the loss of its fellow, has had to perform twice the amount of work usually required of it, and has doubled its bulk in consequence of this increased functional activity.

Similar changes have been described in the lung, in the testicle, and other organs.

Let us now consider some examples of simple overgrowth, as compared with true hypertrophy. Dermal organs supply us with many examples. In old bedridden females it is no unusual event to find the nail of the great toe enormously overgrown, and in

texture, as in appearance, resembling a ram's horn. In animals living in confinement, it is no unusual thing to find the hoofs three times their usual length, or the claws of birds enormously elongated. The beaks of parrots, peacocks, pheasants, partridges, &c., are extremely liable to this abnormal growth, on account of deficiency of usage. I have seen one of the claws of the two-toed sloth describe a complete circle.

The same kind of excessive growth may also be studied in those mammals whose teeth grow from persistent pulps. If there be accidental displacement of the teeth in their sockets, or loss of antagonism from fracture of the tooth or of the jaw, the unaffected tooth or teeth will grow unduly, in some instances re-entering its own pulp-chamber; or it may even describe two and a half circles. All such cases as these are loosely alluded to as examples of hypertrophy, but, as a matter of fact, they should be regarded as instances of simple overgrowth. These cases will occupy our attention later.

Bones are exceedingly liable to enlarge, and it is necessary to exhibit extreme caution in determining whether a given specimen is an example of hypertrophy or of simple overgrowth, or enlarged as the result of inflammation. Very many cases described as hypertrophy are no more worthy the designation than the enlarged sural muscles, characteristic of that remarkable disease, pseudo-hypertrophic paralysis.

The following will serve as a type-specimen of what I consider true hypertrophy. An old man fractured his tibia, and, though he lived for ten years afterwards, the fracture never united. When he died the body came under my observation; and, on dissection, it was found that, so far as actual thickness of the shaft was concerned, the fibula opposite the fracture had the best of it, for the tibia in the neighbourhood of the injury had undergone atrophy, but the fibula, in consequence of increased function, had hypertrophied, exceeding its normal thickness two and a half times.

In no structures of the body can hypertrophy be studied better than in muscular tissue, whether of the voluntary, involuntary, or cardiac variety. With regard to the heart, illustrative specimens are to be found in every pathological museum of any pretension. The urinary bladder, when stricture of the urethra or calculus impedes the free flow of urine, submits to this sanitary process. The same changes may be seen in the gall-bladder; and the various stages of hypertrophy may be traced with great precision on that remarkable mill of many birds—the gizzard.

Corns are interesting examples of hypertrophy, resulting from intermittent pressure, and their anatomy is well known. There are one or two varieties of epidermal thickening which occur in animals, well worthy a few moments' attention. In some monkeys, especially the group *Cynomorpha*, which includes the baboons and macaque monkeys, there exists over each tuber ischii a naked pad of dense callous skin, known as the ischial tuberosities, upon which the body rests when in a sitting posture. Now, a corn upon the hand or foot is a pathological production beyond dispute; ischial callosities are, in structure as well as in function, corns. Ischial callosities differ from corns only in the fact that they are inherited; but, as I shall take occasion to show later, pathological defects may be inherited as well as any other peculiarity; hence the view is forced upon me, that ischial callosities are pathological productions which have been transmitted so as to become race peculiarities.

This opinion is materially strengthened by the fact that dogs, cats, and other carnivora possess five corns, in the shape of callous pads, on each of their paws; and, under the influence of lesions of the spinal chord, these callous pads may become the seat of perforating ulcers.

Up to this point, we have chiefly devoted our time to indicating the points which guide us in distinguishing simple overgrowth from true hypertrophy; we must now consider the relation, often of the most intimate kind, which exists between hypertrophy and atrophy. It is a thoroughly established physiological fact, that those organs which are in most constant demand are richly supplied with blood; hence function and blood-supply are inseparably united in producing hypertrophy. This was well illustrated in the case of the kidney first considered. The work of purifying the blood had been previously shared by two kidneys, but now, the right one having disappeared, increased work and increased blood-supply affected the remaining organ, and it is hypertrophied to meet the requirements of the organism. Thus there has been a diversion of the nutrient stream, and this is largely brought about by the extreme plasticity of the arteries. Coincident with the enlargement of an organ, the nutrient arteries undergo commensurate development, and lead still further to a diversion of the nutrient stream, which, in many instances, is detrimental to some other organ.

We all bear in our legs a striking example of the truth of this

statement. In man, the tibia, as compared with the fibula, by weight is as four to one; if sections be made of the leg of a foetus at the third month, it will be seen that the transverse section of the fibula is not very much smaller than a corresponding section of the shaft of the tibia. If we examine the legs of the *Monobranchus*, which simply uses its legs as paddles, we find the two bones of equal thickness; but when the water animals began to take to the land, the weight of the body was far more conveniently transmitted to the ground by one bone than by two; increased function leads to increased blood-supply, and the tibia grows in size, in fact, hypertrophies. The hypertrophy of the tibia, by causing diversion of the blood-stream, leads to atrophy of the fibula; at least that is how my study of the question leads me to decipher the matter. Nevertheless, so truly does the fibula obey the great laws of heredity, that, in the foetus, it does its best to indicate to thoughtful minds its former eminence. We must also remember that in aquatic mammalia the fibula is often no mean rival of the tibia. The relation which exists between hypertrophy of one organ and the atrophy of some associated organ, may be conveniently termed correlation; and I shall now adduce evidence in support of an opinion that the division of animals into those that are males and those that are females is a consequence of this remarkable law.

Many anatomists are of opinion that hermaphroditism is the primitive condition of the sexual organs.

Hermaphrodites are found in every group of the animal kingdom, but, except in some of the lowest forms, self-fertilisation is wholly exceptional. Concerning this matter, Darwin makes the following observation. "Turning for a brief space to animals, various terrestrial species are hermaphrodites, such as land mollusca and earth-worms; but these all pair. As yet, I have not found a single terrestrial animal which can fertilise itself." The rule in hermaphrodites appears to be this: The male organs in one animal are used to impregnate the female organs of another, or *vice versa*. From this arrangement, it would easily come to pass that, if one animal used the male portions of its reproductive organs more freely than the female parts, they would, as a result of increased function, undergo hypertrophy.—*British Medical Journal*.

(To be continued.)

A Case of Replantation.

THE report of a case of replantation in the *Dental Cosmos* for September reminded me of a similar case which came to my knowledge in my own practice some eight years ago.

The lady, aged thirty, fell upon the ice, and her jaws being somewhat prognathous, her upper front teeth struck the ice with great force, knocking out the superior left lateral incisor, and loosening the adjoining teeth. The patient was carried into the house in an unconscious condition. The accident occurred late one afternoon. The next morning, after she had recovered consciousness, she greatly bewailed the loss of her tooth, and search being made, it was found, covered with ice and snow, having lain in this condition some eighteen or twenty hours. The tooth at this late hour was replaced by the lady herself, and without being ligated, and with no other than ordinary care for a few weeks, it became well and strong enough to be of the same use to her as her other incisors. There was some discolouration and slight elongation, but the tooth was perfectly comfortable and useful until a second accident occurred to it, a year afterwards, at which time it was loosened by inadvertently biting on a bone while eating squirrel. After this it became somewhat inflamed and sore, and continued so for six months. It was so annoying at this time that the lady repaired to a brother practitioner and had it extracted. On examination the root showed some absorption at the apex. It had, however, done good service for one year, and fair service subsequently for six months more.—M. H. FLETCHER.—*Cosmos*.

Victims of Cocaine.

CHICAGO, December 12 (*Special*).—The cases of Dr. Bradley and his wife, both of whom became insane from the use of cocaine, continue to be the subject of close inquiry by the medical profession. Dr. Wadsworth, who has been treating Dr. Bradley, said to-day: "The drug is comparatively a new one, and, indeed, its full and exact value as a remedial agent is not understood at present. It was brought out within a year, and we cannot expect to understand it thoroughly until time, experiments, and experience have determined its merits. My attention has been called to a picture in an illustrated paper, where Dr. Bradley is

represented as performing an experimental operation on his wife's wrist to test the value of cocaine in surgery. That is all nonsense. His case has attracted attention all over the country and the facts should be known. His wife was a victim of cocaine. This was due to his example and influence upon her more than to force. She told me herself that at one time she used from twenty-five to thirty grains a day. The doctor took it in large quantities. Whether they will recover from its effects is still a question. Dr. Bradley's case has accomplished some good, for it has called public attention to cocaine, and this may lead to a proper restriction of its sale. It is a dangerous thing to be sold to anyone who may want to buy it.—*New York Sunday Times.*

NEW INVENTIONS.

Notes on an Accumulator.

By RICHARD OWEN, Wolverhampton.

HAVING had considerable experience in the working of electric batteries, and finding that there is great uncertainty in maintaining sufficient force for use with the electric mouth mirror and mallet, my attention has been called to an entirely satisfactory way out of the difficulty by using the Elwell-Parker, Limited, Accumulator, which the makers describe as follows:—"The accumulators consist of lead plates placed in dilute sulphuric acid (1 to 9), when a current is sent into the cells from a battery; the lead plate which is connected to the copper or carbon pole of the battery becomes covered with a layer of peroxide of lead, the other plate having a layer of spongy lead. When the accumulator is being used to generate a current, the current flows from the peroxide plate through the external circuit and back to the spongy lead plate. The peroxide plate is distinguished by its brown colour."

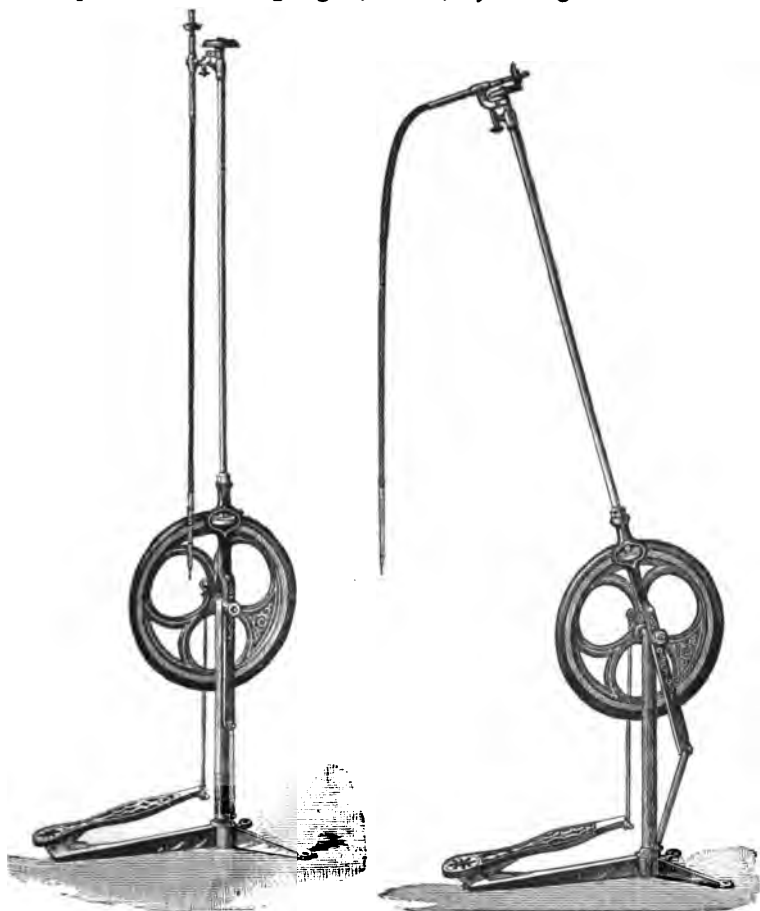
One of these accumulators, 5 inches by 4 by $1\frac{1}{2}$, will sustain continuous action in the mouth mirror for fully two hours, and for double that time in the mallet. The accumulator possesses the advantage of being portable, and being small can be placed under the operating chair, or in any other convenient place and removed from one surgery to another, and being free from smell of any kind is a most delightful change from the acid fumes of most batteries. The accumulator can be recharged in a few hours during the night from a six-cell Daniell's battery, or a three-cell Bunsen's. The

Daniell's could be charged with the salts of copper and zinc, and would last a considerable time without recharging, and, of course, can be kept in a cellar if necessary.

I should say that the accumulator can be purchased under one guinea, and could be recharged from a dynamic machine for a few pence, should such a machine be conveniently reached. I believe Messrs. Ash and Sons will shortly be in a position to supply the accumulator.

A Cordless Dental Engine.

MESSRS. W. & J. JAMIESON, of 10, Broad Street, Golden Square, have produced a burring engine, which, by an ingenious contri-



vance of a series of friction wheels, is so arranged as to dispense with the usual driving cord. The absence of this cord will be an undoubted advantage, *per se*, that is, if it is not attended by any compensating disadvantages. We have examined the specimen at Messrs. Jamieson's depôt, and have convinced ourselves that its movements are free and easily controlled, and, as far as it was possible to judge (the specimen in question being the first and therefore hardly a fair criterion, on account of its roughness), possesses, a very unusual driving power. Any hand piece, sheath, rod, or cable can be applied to this engine, and its claims to superiority must rest upon a fair trial; in the meantime the absence of the driving cord is of itself an inestimable advantage.

OBITUARY NOTICE.

WE regret to have to announce the death of Dr. John Storrar in his 74th year. The deceased gentleman during a long life had taken a deep interest in education, and up till a very recent date was chairman of Convocation of the University of London, and as the representative of that body on the Medical Council he showed the consistency of his aim by warmly supporting the efforts recently made on behalf of dental education. The discussions at the Medical Council on dental affairs, which we have from time to time reported, testify to the loss which our profession suffers in the death of Dr. Storrar, but only those who know how much of our present position is due to the interest which he took in our affairs can fully appreciate the debt of gratitude we owe to his memory.

APPOINTMENTS.

D. STUART HEPBURN, L.D.S.Eng. has been appointed Honorary Dental Surgeon to the Nottingham General Dispensary, *vice* Wm. Goddard, L.D.S.Eng., resigned.

J. ROYSTON, L.D.S.Eng., has been appointed Lecturer on Dental Metallurgy to the University College, Liverpool, and Dental Surgeon to the Royal Southern Hospital, Liverpool.

BIRMINGHAM DENTAL HOSPITAL.—At the quarterly meeting of the Committee of this institution, Mr. WILLIAM PALETHORPE, L.D.S.Eng., late of Queen's college and London, was elected House Surgeon.

HERBERT APPERLEY, L.D.S.Eng., has been appointed Hon. Dental Surgeon to the New Hospital for Women, London, W.

HENRY DAVIS, M.R.C.S.Eng., L.S.A., has been appointed Anesthetist to the National Dental Hospital.

ANNOTATIONS.

MEMBERS will receive with this number the annual volume of the Transactions of the Association, which we trust will prove as interesting and instructive as any of its predecessors.

We have received a letter from a provincial member asking our advice under the following circumstances. He has been requested to furnish information to the Directors of a public Institution as to the advantages and probable cost of dental superintendence of the children, numbering from sixty to seventy, under the care of the Institution. The question is a difficult one to answer, and if any of our readers can offer suggestions we will gladly print them, a free correspondence on the subject will help to clear it up. A great deal must depend upon the extent of supervision and the nature of the work required. If the dentist were required to pay a regular monthly visit to inspect the school, and devote the entire day to the Institution, we think—taking into account the indirect advantages of the appointment, and that the Institution is probably a poor one, subsisting on charity—that the honorarium required ought to be as moderate as possible; but we shall be very pleased to hear more opinions upon the subject.

At a Meeting of the West of Scotland Branch (see page 138) Mr. Rees Price read the notes of a case which has an especial interest to physiologists apart from its dental aspect. Most of our readers are no doubt aware that for some time past M. Charcot and others have been carrying on a series of investigations into the effects that may be produced by "suggestion," as it is called, to mesmerized hysterics. The results have been so marvellous as almost to challenge belief, were it not for the authority upon which they rest. Spots of blood have been produced by intimating to the patient while in the mesmeric state that such spots were to appear, and numberless more strange

illustrations of a similar kind. We are doubtless only on the threshold of a knowledge of hysteria, and have at present but little idea of the strange influences the mental state may exercise over the physical body, but Mr. Rees Price's case is an interesting and striking case in point.

SINCE our last issue an event has occurred possessing a very sad interest to all of us. As most of our readers are already aware Lady Flora Wilmot died on Monday, March 1st, immediately after taking chloroform for the extraction of a tooth. The dental surgeon and the medical man who administered the anæsthetic were both completely exonerated by the jury. The dentist, indeed, stood in no need of exoneration, seeing that by leaving the administration of the anæsthetic to a brother professional man, and not attempting to administer it himself, he freed himself from all responsibility and secured the sympathies of every member of the profession under the painful circumstances that attended the operation. The case does, however, render more obvious, if possible, the risk attending any attempt to combine the two functions of operator and administrator.

IN the previous November Lady Wilmot had suffered a concussion of the spine, caused by a fall from her horse. On the Wednesday previous to the fatal event, Mr. Farrant Fry administered chloroform to her for the extraction of a tooth at Mr. Scott's surgery, she took it well and recovered quickly, but became again drowsy later in the day. The toothache continued and her face swelled, and after four days' suffering she sent for Mr. Fry and Mr. Scott to have another tooth removed at her own house. She was "comfortably cushioned up in a chair," the same dose of chloroform administered, and the tooth extracted. Her breathing continued regular for about two minutes, and "there was a sufficient return of consciousness for Mr. Scott to offer her a glass of water to swill her mouth out, but she did not take it. The gums bled freely." Then pulse and breathing stopped, and the usual remedies failed to restore animation.

THESE untoward events happening to men of skill and experience, and in spite of every precaution are very properly viewed by juries, the public, and the profession, as matters for commiseration

and sympathy rather than criticism. For the future, however, we trust we shall never again read of chloroform being administered for the extraction of a tooth. The apparatus for administering gas is not difficult to obtain, and should a longer anæsthesia be required a little ether in an Ormsby inhaler will answer all requirements. A glance at Messrs. Ash's new catalogue will convince any one that there are plenty of simple and portable forms of nitrous oxide apparatus, and there is really now no excuse for any anæsthetist not possessing one. The A C E mixture advocated by the *British Medical Journal* is open to this objection, that the rates of evaporation of the three agents differ, the ether evaporates much more quickly than the chloroform, so that after a few minutes nothing but chloroform is being given, and that with a too lavish hand, under the impression that it is one part of alcohol, two of chloroform and three of ether, that is being administered.

WE have felt for some time that our Gallic brethren were producing a school of dental science of a very high order, and every periodical we receive from France confirms us in this opinion. Their science is true science carefully worked out for the good of mankind, and contrasts delightfully with the crazy cant and pedantic nonsense which stains the pages of some dental literature, and raises a sneer upon the face of our medical confrères and a blush upon our own. M. le Dr. Charles Eyssautier's opening address at the Ecole Dentaire de France, as reported in the current number of the *Revue Odontologique*, is a model of graceful diction and dignity. We cannot refrain from translating some of his advice to his students.

"ANATOMY," says M. Eyssautier, "is a precise and severe science, she reserves her favours for the initiated, and to taste her stern delights, we must love her passionately and yield her a worship sincere and persevering Our first attempt must be followed up by others without impatience or discouragement, and the devotee of science must never recoil before the painstaking laboriousness of rigorous exactitude. All starts are difficult, and I allow it the more freely because I have experienced it myself, but if you are courageously faithful to work, you will some day be astonished at the results that await you."

HE does not point out to them a path of roses, a few months devoted to acquiring the tricks and dodges and the choice of a technical jargon, and then "pick a subject not generally understood, be sufficiently mysterious, self-assertive, and oracular, and when all ideas fail quote the Bible till you can think of a new word or two, and at a moderate outlay of time and money you will soon acquire a *scientific reputation*."

M. EYSSAUTIER concludes with some very pretty remarks upon the relations of teacher and taught "I will seek to break down all the barriers between us, the master will strive to lose himself in the companion and friend, that he may the better guide your first efforts to tread this new path. He will remember the uncertainties and gropings that attended his own early studies, and thus you may be saved the falls he suffered. Thus when you reach the goal you shall remember nothing of the length or toils of the way."

IN the *Progrès Dentaire*, among other very excellent matter, is an article written for the guidance of the general surgeon, in which he is instructed upon certain important matters relating to the teeth. He is told the common tests to apply to decide concerning extraction; he is warned against the mischievous imbecility of waiting till the inflammation abates to extract a tooth (will he ever take the warning?); he is told of the consequences of opening alveolar abscesses through the external skin (happy France if he listens); at any rate the French surgeon will do well to learn the article in question by heart.

LAST month the house of John Hunter was sold by auction. The copper that was used for boiling the remains of the Irish giant Byrne O'Brien, came to the hammer together with many other relics of the home of one of the greatest geniuses that surgery has ever known. The foundations of our own special science may be said to have been laid by Hunter, and we cannot help feeling a kind of selfish regret at the demolition of the historical building that was the scene of his labours. In this house at Earl's Court, Mrs. Hunter used to receive Dr. Johnson, David Garrick, Oliver Goldsmith, Madame D'Arblay, Miss Berry, and many others well known to fame; but none of whom ever did so much for poor humanity as John Hunter himself.

GOSSIP.

WE greatly regret that we are unable to publish the usual report of the Odontological Society's meeting this month. The author of the paper, Dr. Dudley Buxton, not having been able to supply us with his manuscript.

WE are much obliged to those correspondents who have favoured us with short slips of news, and we would once more remind every one that the only way we can obtain knowledge of appointments and other events is through those who are personally interested in them.

As the *British Medical Journal* justly observes, a ministry that includes Lord Spencer and Sir Lyon Playfair is likely to succeed in carrying a comprehensive and satisfactory medical measure. Our contemporary understands that such a measure is likely to be submitted to the present Parliament.

DR. GEORGE JOHNSON, F.R.S., will retire at the end of the present session from his active duties as Professor of Clinical Medicine in King's College and Physician to the Hospital, and the Council has appointed him Emeritus Professor in the College and Consulting Physician to the Hospital.

AT a recent meeting of the Sheffield Medico-Chirurgical Society, Mr. Snell exhibited iodoform mixed with coffee (Oppler's method), to disguise the odour, which was quite successful.

MR. RAWDON MACNAMARA has been re-elected representative of the Royal College of Surgeons of Ireland in the General Medical Council.

BENEVOLENCE TO NEEDY SCIENTISTS.—An appeal is being made to the Fellows of the Royal Society and other friends of science, to increase the capital of the fund which the Society administers for the benefit of scientific men in necessitous circumstances. Sir William Armstrong has promised a sum of £6,500

on certain conditions, the principal of which is that an equal amount is raised by others who are interested in science. The fund has done good service in the relief of men of science and their families, but at present is quite inadequate to the demands made upon it.

Dr. FRANK OGSTON, late of Aberdeen, well-known for his bacteriological researches, leaves shortly for Dunedin College, Otago, New Zealand, as professor of medical jurisprudence.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—The following gentlemen passed their first examination for their license in dental surgery: A. F. Benson, Yeovil; F. W. Masters and T. Masters, Manchester.

MR. SPENCE BATE's address has stirred up public opinion in Plymouth in a most satisfactory manner, a long correspondence has followed a leader in the *Western News*. Of this we shall have more to say in our next issue.

WE hear that Mr. Thomas A. Rogers has, in response to a request from some friends and colleagues, consented to give sittings for a portrait to be presented to the Odontological Society. As we find there will be no public appeal or announcement in reference to this testimonial, and as there may be some who may feel aggrieved at not having the opportunity of joining in it, we believe we are correct in stating that any information on the subject can be obtained from Mr. James Parkinson, 36, Sackville Street, W.

WE greatly regret to have learnt that our old friend and supporter, Mr. Richard White, of Norwich, is suffering from very serious indisposition at the present time.

CORRESPONDENCE.

We do not hold ourselves responsible for the views expressed by our Correspondents.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I should feel obliged if you could inform me whether any dental practitioner, except Sir E. Saunders, has been elected as president of a branch of the British Medical Association.

I am, sir, yours truly,

CHARLES GAINÉ.

[We are not aware of any case. Perhaps some of our readers can inform Mr. Gainé.—Ed.]

The Recent Students' Dinner.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—The success attending the students' dinner on the 27th ult. must have been as gratifying to the projectors as to those who enjoyed the entertainment. There are, however, one or two points to which I would venture to call your attention. The first thing I would allude to is the toast list. What have the old and staunch friends of the profession, to whose exertions the dinner itself and even the students, such, owe their existence, done that they should be left out in this terribly cold weather, without having their share in the good wishes of the meeting. Are the Odontological Society and the British Dental Association unworthy of a thought, or of the scanty three minutes allowed by the chairman to those who had to speak? Are students, past and present, to forget these institutions on the only occasion on which they can publicly acknowledge their obligations to them? or has the time come when they can do without them, and when they can afford to ignore them publicly and privately? If the extended musical entertainment were absolutely necessary, could not the meeting have been prolonged twelve minutes longer to have given these societies their due? Surely, sir, the masters of the feast have unwittingly made a mistake. Then, sir, I was surprised to find in the chairman a gentleman who, although most deservedly popular with our profession and with his colleagues, is unconnected with the Dental Hospital either as a past or present student. Is this quite just to ourselves as a profession, or to the many gentlemen who have been connected with the Dental Hospital long before our chairman was associated with it. Perhaps you, sir, know more than I do, of those gentlemen who managed the business and so can enlighten me on these points.

Yours truly,

AN OLD PRACTITIONER.

[We are not aware who is responsible for the arrangement of the toast list, but we are sure that the temperate remonstrance of our corres-

pendent will receive careful attention another year. On the present occasion the long illness of the Dean rendered the task of arrangement more than usually difficult, we have no doubt.—Ed.]

The National Dental Hospital Circular.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I have seen a notice from the National Dental Hospital asking for subscriptions to the Institution, on the ground that an extra subscription enables people to send their servants there. Now this seems to me mistaken charity : with the best of motives, no doubt, the National Dental Hospital is depriving a certain class of the profession of their clientèle ; surely it is very unfair of a charitable institution take the bread out of the mouths of practitioners who subsist upon small fees. Why should servants, who are a very well-paid body, have their dental aid on the same footing as paupers. There are few class of society less in need of charity than domestic servants, and no body of people more in need of something to earn daily bread than a young practitioner, who will be robbed of his fees by this meaningless philanthropy. The qualified men turned out by the National Dental Hospital will not thank their *Alma Mater* when they see their patient who can well afford to pay a modest fee receiving the beggars' allowance (at the expense of the beggar by the way) at Portland Road.

Yours,

FAIR PLAY.

[We confess "Fair Play" has a just cause of complaint, and allowance is made for a somewhat reckless mode of expression, sympathise with the substance of his indictment.—Ed.]

COMMUNICATIONS HAVE BEEN RECEIVED FROM :—

Messrs. Breward Neale, Clifford Batten, C. S. Tomes, Wm. Fisher, C. Spence Bate, David Hepburn, Rees Price, James S. Turner, J. W. Langmore, H. Sewill, F. Canton, H. Lloyd Williams, Sir Edwin Saunders, Joseph Walker, Oakley Coles.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 40, Leicester Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Members are reminded that their Subscriptions for the current year are now due and should be remitted to the Treasurer, at 40, Leicester Square.

According to the Byelaws of the Association, Members who are one year in arrears are not entitled to receive the Journal.

All Correspondence for the Editor, Books for Review, and Exchange Journals should be addressed to 40, Leicester Square, London, W.C.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 4

APRIL 15, 1886.

VOL. VII.

The Journal of the Association.

IN our last number we endeavoured to explain briefly the objects and aims of a dental periodical, referring more particularly to our own Journal, which, as the organ of an Association, has perhaps a more extended sphere of observation than belongs to other periodicals of a similar character. The politics of the profession have necessarily assumed a greater importance than they had ever done before the passing of the Dentists Act, and to obtain for the profession the legitimate benefits of the provisions of this Act, is one of the objects of the British Dental Association.

But if the Act is to operate effectively and efficiently, it must be worked for and by a united body acting as one man for the good of the whole. In this light our Journal becomes an organ of the highest importance to us as a

profession, for it makes the voices of our leaders heard from one end of the country to the other. Sometimes on this as on other matters we are blamed for the use of the pruning knife, while again we have been censured for devoting to "post prandial speeches" space which might have been more advantageously utilized. Now those who have worked for the organization of our profession have all along felt the difficulty of fixing the attention of our members even on matters of the first importance, and when they get the chance of dealing with such questions in a popular way in an after dinner speech, we think that it would be a loss to the profession at large and an injustice to those gentlemen who are so anxious to be understood by us, and who have so frequently gone out of their way to lay their opinions before us, if we did not give them all available space in our pages. We know that they would only be too glad to be spared the continued reiteration of much which they are compelled to repeat, but their listeners do not betray any weariness in listening, and so we have a right to assume that others are willing to read that which they have not been able to hear. We have endeavoured for some time past to make our Journal more and more scientific and less and less political, but we feel assured by the correspondence with which we, as well as the Hon. Sec. of the Association are favoured, that a large number of our members have but a hazy notion of what has been done during the last few years, and of what yet remains to be done before we arrive at a near approach to the position which we ought to occupy as a body of educated gentlemen.

Only by hammering and hammering can our profession be welded into a homogeneous mass, and in conducting the Journal of the Association which has this object in view, it will be our duty to return to the politics and education

of the profession again and again, either in our leaders or in our correspondence, or by reporting after dinner speeches, according to circumstances.

In discharging this duty we shall endeavour to curtail all communications and speeches, so far as is consistent with the retention of whatever is valuable and useful, and we must remind our readers that although a letter or a speech may be short, it may be none the less valuable, and that the condensation to which it has been subjected may demand increased attention in its perusal.

The business of the Association must be reported, that is only fair to ourselves and to the Branches of which our Association is made up. Any impatience of such reports on the part of our readers only shows that they have failed to catch the spirit of the British Dental Association.

It shall be our aim to follow out this line of conduct judiciously and impartially, and at all times to give respectful consideration to all communications from our readers and members making either suggestions or complaints, but letters of abuse or insult can only be consigned to the waste paper basket.

Dental Surgery in the Navy.

THE profession have every reason to be grateful to Mr. Spence Bate for his valedictory address at the Odontological Society. The immediate consequence of the address was an excellent leader in the *Standard* discussing the question and approving the views of the past President of the Society. *Vanity Fair* and other journals took up the strain, and united in a praiseworthy endeavour to bring this important question before the public notice, and still more recently a correspondence has appeared in the *Western Morning News*, in which the matter has been further thrashed out. This correspondence commenced with a letter from an individual

who wisely concealed his identity under the *nom de plume* of "Machaon." This letter is of great service to the discussion, because in attempting to defend the existing state of affairs the writer has contrived to expose almost all its weak points to the assaults of the critics, and by the light which his statements throw upon his own unfitness to decide any problem of dental surgery, he emphasises the pressing need for, at any rate, a certain degree of special instruction in matters pertaining to the teeth among those who are responsible for the health of the blue jackets.

It would be an insult to the medical officers of the Royal Navy, "Machaon" thinks, to suppose they were not as well versed in the development of the teeth as the majority of better-class dentists; and why? because dental physiology and surgery, except such mechanical matters as stopping⁽¹⁾, form an item sometimes in the examination such officers have to pass. Now the very large class of dentists who have also qualified as surgeons and physicians will be able to appreciate the sort of knowledge of dental physiology and surgery which satisfies "Machaon," and, indeed, so inflates him with pride that he conceives it to be an insult to suppose that an extra two-years' practical and theoretical instruction at a special school, and the entire devotion of all the energies and talents to special practice, could teach him more.

The few pages of antiquated and obsolete stuff that, until very recently, did duty for dental physiology and anatomy in the general text books, no doubt supplied the theoretical basis of his knowledge, a day a week for a couple of months "taking out" teeth—or portions of teeth—in the out-patient room, affords him a practical insight into dental "surgery" (and few general students avail themselves of these advantages), and armed with the theories of Goodsir and the practice of the out-patient room, he feels perfectly competent to decide upon the "reasonable prospect" of gaps being filled and to forecast a boy's dental efficiency for twelve years to come. It is in this *defence* that the plainest evidence of the gravity of the evil may be found. We do

not for a moment believe that there are many medical officers in the navy who would endorse "Machaon's" statement, that the suggestion that more accurate dental knowledge might be of benefit to them and their patients, contains an implied insult, any more than a doubly qualified dentist who possessed the membership of the college in addition to the L.D.S., would feel aggrieved if his opinion as to the enucleation of an eye were not considered of equal value with that of an ophthalmic surgeon trained at Moorfields.

"A naval medical officer" replies to "Machaon" with some unmistakeable facts. After pointing out that Mr. Bate's contention was that the teeth should be cared for and attended to *while* the men were in the Service by some one who did not think the "mechanical process of stopping" beneath his dignity or beyond his powers, the second writer testifies to the use of the "key" on board ship, and by his manly and sensible avowal of the abuses prevalent represents, we are convinced, the desire for reform among the generality of medical officers in the navy.

Mr. Bate, in his reply to "Machaon," writes as follows:—

Sir,—I did not like to reply to "Machaon's" letter of the 25th ult. so fully as I was enabled to do until I had permission of the writer of the following communication: "I have no objection to your making use of the substance of what I enclosed to you, without any names, for I think it may help to further your intentions and ideas on improved dentistry in the navy which is much required. I see in the *Western Morning News* of Thursday, 25th ult., a letter signed 'Machaon,' who evidently has not had a letter addressed to him as the enclosed copy. I trust that your effort to obtain a duly qualified dental surgeon for the service with the boys' training ships will be successful.—Yours truly, —, Fleet Surgeon."—"Memo. The undermentioned newly raised boy recently sent to the *Impregnable*, having, after medical survey at Plymouth Hospital been found unfit for the service, I acquaint you that the medical officer, who passed him as fit, is to be informed that he has failed to comply with his instructions in the examination of the boy, and that he must attend more strictly in future to the regulations for the medical examination of all candidates for entry into the service."

Name.	Disabilities.	Date of Entry.
A.B.	Three molars absent. One molar decayed. One bicuspid destroyed.	August 188...

Now, sir, comment is unnecessary, for there are only in this case three teeth absent and two others decayed, and the surgeon who used his discretion and sent the boy to the hospital for examination, is informed that he has failed in his duty. Now, assuming that the three missing teeth were the first molars, as I have little doubt at the boy's age they were, I contend that his mouth was all the better for their absence, and that the boy would have an improved set of teeth in consequence.

I do not think that stronger evidence can be given for the necessity of surgeons in the navy, where the health of the teeth is an important factor in the health of the men, being further qualified by having the dental diploma of the College of Surgeons.—Yours truly,

C. SPENCE BATE.

The *Army and Navy Gazette* calls attention to the suggestion contained in the address that for a sea-going man-of-war, the possession of a dental diploma would be of more service than a special diploma in midwifery. Every one (excepting, perhaps, "Machaon") will consider this almost ludicrously self-evident.

Lastly, "Machaon" thinks that, however much advantage a boy might suppose himself to enjoy from the absence of four six-year old molars with exposed pulps, and four irregular crowded bicuspids, he would be undeceived when he commenced the mastication of a ship's biscuit. This then is the knowledge that is insulted by the suggestion of a possible improvement.

We all are familiar with the classification of degrees of folly into those—if we may render it in polite paraphrase—whose weakness of mind is so serious that it prevents them from perceiving that they are weak at all, and those whose perception is just acute enough to render their weakness obvious to themselves and a source of wholesome diffidence and modest desire for help. The writer who signs himself "Machaon" is in the more hopeless variety of darkness,

and, satisfied with the bliss of ignorance, he has, at any rate escaped one folly, namely, that of being wise.

Drs. Heitzmann and Bodecker on "Eburnitis."

Is the March number of the *Independent Practitioner*, among a great deal of matter of unusual interest, are two articles which ~~draw~~ particular attention from those of our readers who are specially devotees of science. Dr. Miller, of Berlin, opens this ~~excellent~~ number of our contemporary with the continuation of ~~another~~ carefully worked out research on fermentation. Like the ~~rest of~~ this author's contributions, it is full of interesting matter ~~and~~ clearly expressed, an abstract of it will be found at page 237. Following Dr. Miller's article is an essay by two investigators, whose names have been linked together in dental anatomy for some years past, Dr. Heitzmann and Dr. Bodecker. The authorship of the article entitles it to a careful perusal, and an impartial discussion. We shall therefore endeavour to lay the views of these authors before our readers, and to point out in what respect we hesitate to accept all their conclusions.

Some eight years ago Dr. Bodecker, in a series of communications to *the Cosmos*, claimed to have demonstrated that the prisms of human enamel were not absolutely contiguous, but separated from each other—a view that has since been pretty generally accepted, and may be very simply demonstrated in a thin section of young enamel; furthermore, he claimed to have demonstrated, by staining with chloride of gold, that the contents of the spaces intervening between the prisms was living protoplasm; that this protoplasm traversed the whole tissue in the form of a fine network of living matter, its cross branches accounting for the familiar striation of the prisms; that this network communicated with a similar network permeating the dentine, and *via* the membrana eboris was continuous with the nervous tissue of the pulp chamber—an elaborate system of vitality traversing every portion of the hard tissues of the tooth, accounting for the sensibility of dentine, intimately concerned in the nutrition of that tissue and capable in itself of pathological changes. Probability seemed altogether in favour of this ingenious and attractive hypothesis. Dr. Bodecker's views spread like wild fire through America and were very favourably received in Europe, and many

authorities accepted the tempting deduction without waiting for further verification of the evidence on which they were based.

The present article deals with the pathological aspect of this view of dental anatomy. The authors commence by assuming as a fact that dentine is subject to "inflammation," and proceed to classify the inflammation as that which starts from without, that which starts from the pulp, and the form specially under consideration, which arises spontaneously in the substance of the dentine. They describe inflammatory changes going on in the dentine around a filling and attribute the diminution of sensibility in the neighbourhood of an oxyphosphate or oxychloride stopping to a process of healing by organization. The changes in ivory produced by bullets becoming imbedded in the tusk are quoted as the result of inflammatory disturbances, and Carl Wedl's account of such ivory is repeated at some length. Moreover Drs. Heitzmann and Bodecker refuse to accept the theory that dentine is developed directly from the odontoblasts, because it does not account for the presence of the fibrils, whereas they consider all is accounted for "if we take the ground that the odontoblasts break up into medullary corpuscles between which the dentinal fibrils are formed." This view, they maintain, explains the presence of globular forms in dentine. Of course only a hint at this side issue is thrown out, so that it is impossible to discuss a new view of development so lightly set forth, but in passing we may state that the presence of globular forms in dentine or any other calcified tissue is very simply accounted for by the calcification theory of Rainey, which has been since elaborated by Dr. Ord, and moreover that these forms may be easily reproduced artificially, that we cannot see any difficulty in accepting either Klein's or C. S. Tomes' account of the formation of fibrils, and that these observations require very solid reasoning to upset them.

We now come to a series of figures illustrating stages of "eburnitis," of which it is enough to say that the principal feature is that the areas of changed tissue are of a multiglobular outline. The authors have endeavoured to draw what they saw with fidelity and precision. It is impossible to reproduce a microscopic object in this manner with absolute accuracy, but these drawings are so good, that we believe that we are not unfamiliar with the changes, or rather the conditions they represent, and if it be so, we should like to hear and see a great deal more

evidence before we feel inclined to grant that Drs. Heitzmann and Bodecker are correct in attributing the appearances to inflammatory changes. It is very pleasant when we find ourselves compelled to dispute a line of reasoning, or to reject a series of conclusions, to find the process has left us with an increased respect and esteem for the authors, whose opinions we cannot share, and while we do not believe in Dr. Heitzmann and Dr. Bodecker's "eburnitis," we congratulate them on their faithful drawings and their clear statement of the results of their original work and observation. We cannot conclude without congratulating the editor of our friendly contemporary on his March number which is a credit to dental literature.

ASSOCIATION INTELLIGENCE.

Midland Branch.

THE Annual Meeting will be held in the Technical School, Bradford, on Friday, April 30th, 1886.

Thursday 8 p.m.—The Mayor will give a reception at the Town Hall.

Friday 10 a.m.—Council Meeting.

11 a.m.—Business meeting (members only).

12 noon.—President's Address, open to visitors.

1 p.m.—Adjournment.

2 p.m.—Communications: "Crown, Bar, and Bridge Work," by Dr. Walker; "A New Form of Constant Battery and Electric Lamp, for Dental use, illustrated with experiments, by W. H. Nicol, L.D.S.; "Special Trays, for Impressions" by E. H. Williams, L.D.S.

3 p.m.—Papers and discussions—"A few Notes on some Irregular Dental Tissues," by A. A. Matthews, L.D.S.; "A new Matrix for Approximal Fillings," by E. J. Ladmore, L.D.S.

6.30.—Dinner at the Alexandra Hotel, where members are recommended to secure rooms, special terms having been arranged. Dinner tickets 7s. 6d.

Saturday.—If a sufficient number are willing to join, a Picnic to Bolton Abbey will be organised. Tickets 7s. 6d.

Each member or associate can introduce a friend to all but

the business meeting, and the friend's name should be entered in the list of visitors.

W. H. WAITE, *Hon. Sec.*

ORIGINAL COMMUNICATIONS.

Hygiene of the Oral Cavity.

By C. CLIFFORD BATTEN, L.D.S.*

THE subject is one which may be well understood by most readers, nevertheless, it is of such great importance that it can bear recapitulation.

First class fillings can be put into the mouth, but these will be of comparatively little use if the patient is not instructed in cleaning the teeth.

Before starting on the hygiene of the oral cavity, it is as well to pass a few remarks on general hygiene, for without the maintaining and preserving of the health generally, we cannot expect to uphold and sustain the health of the teeth and their surroundings.

There is an adage "Early to bed and early to rise, makes a man healthy, wealthy and wise." Wealth and wisdom we may question, but there is no doubt that one of the great secrets of health is early hours. On rising in the morning a cold bath and a good rub down, will be found beneficial to the majority of people. Daily physical exercise is also necessary to assist the circulation of the blood, and compel its determination in the extreme and minute parts of the vascular system. By the use of wholesome food, such things as whole-meal bread, porridge and milk, &c., the constitution can be built up and the entire system invigorated. Meals should be regular, the food well masticated, and heavy or late suppers avoided. With these few general remarks we will pass to the more important parts of the paper, which shall be considered from the time the mother proudly announces that "Baby has cut a tooth!"

At that period it is of importance to explain, so as to be thoroughly understood and appreciated by the parent, the necessity of keeping the teeth clean; for we all know with what rapidity these delicate instruments of mastication are destroyed, and how the vitiated state of the saliva, the fermentation of the

* Read before the Central Counties Branch.

small particles of food which lodge in the crevices and between the teeth, and the decomposition of the exfoliations of the mucous membrane of the mouth, gums and tongue, are all acting upon the enamel and thus opening the way for decay. Instruction should be given as to the way to cleanse the mouth by rubbing the gums and teeth with a soft cloth, several times daily (a brush cannot be used to advantage in so young a patient). Undoubtedly the process of cleaning will be a difficult thing to accomplish at first, although after a time it can be done with little trouble, the rubbing having a soothing effect on the gums, and the child becoming as accustomed to it, as to the washing of its hands or face.

Cleanliness having been established, it will be more and more appreciated the older the infant grows, and the uncomfortable feeling of having missed for one day cleansing the mouth, will be as much noticed by it as by any one of us.

As time goes on the brush should take the place of the cloth. There are numerous ideas and suggestions put forward about the kind of brush to be used—some say a hard one, others medium or soft, some recommend a flat surface, some serrated. The majority of brushes found in an ordinary chemist's shop, are not of much use, being as a rule too large, the result is, that owing to the inability of reaching the back of the mouth, a perpendicular motion cannot be accomplished, and the molars rarely get touched. In order to reach all sides of the teeth, the bristles should be placed on the concave side of a curved back, which should gradually taper towards the end.

As the oral cavity under different circumstances requires different treatment, we cannot recommend a certain dentifrice, but must vary it according to the condition of the mouth. Gritty preparations should be avoided, as should the various advertised compounds, the majority of these being deleterious. We often see a tooth powder "Recommended for whitening the teeth," this, our patients should be told to shun, as a powder that will whiten a tooth, can only do so at the expense of the integrity of the enamel. Some of the dentifrices advertised may be good, but how can we conscientiously recommend a thing when we do not know anything about its components any more than a medical man can encourage the use of a quack medicine? Other useful implements besides the brush and dentifrice, are the waxed floss silk and the quill toothpick. Having been provided with these

necessaries, the patient should then be told the way to use them. It is little use to tell them to brush the teeth regularly, as the reply will most likely be "I always do;" in many cases this may be true, although for all the good it does it might be dispensed with. Usually a very hard brush is taken with some preparation resembling pumice, and the teeth and gums are scrubbed across vigorously, all in one direction, thus injuring the latter, wearing away the prominent parts of the teeth, and tending to force the *materies morbi* between them. Brushing should be done in a systematic way, starting, say, from the left side, brush from the gum towards the crowns of the teeth, in such a manner as to dislodge the particles of food, &c., from between them; continue this right round, both upper and lower jaw, inside and out. The tongue and mucous membrane of the gums and mouth should also partake of this cleansing process. Floss silk or strips of rubber dam may be passed between the teeth, this effectually removes the smaller deposits, and the water with which the mouth is rinsed, washes them away and dilutes the acid. Silk is liable sometimes to injure the gum when forced suddenly upon it, therefore rubber is preferable in these cases. The action of the lips and tongue, together with the free flow of saliva, all tend to dislodge the extraneous bodies which collect on the teeth; at night, however, when the body is dormant and these movements not taking place, acids are generated by the fermentation of animal matter and other foreign substances, the solvent action of which soon establishes disintegration of the tooth's surface; the best time, therefore, to brush the teeth is at night before retiring to rest. A person who has any pride or interest in these organs of mastication, should not be content with cleaning them once a day, but several times. The advice given to my patients and also followed by myself, is to brush the teeth well at night in the way I have already stated, the silk, rubber and toothpick being used when necessary. All food, &c., having been now removed, it is only necessary in the morning to rinse the mouth out well (personally, I use a few drops of Condylin in water), after breakfast again brush the teeth, also after every meal. To those who have any tendency to retrocession of the gums, or pyorrhœa alveolaris, I advise brushing with a badger-hair brush, only at night and after breakfast, during the other parts of the day, rinsing the mouth.

Up to the present we have considered only the way of preventing caries and other dental maladies by brushing, &c.; let us now turn our attention to the oral cavity when found in a diseased state.

Sometimes we see patients with the ravages of caries marked to a more or less extent with tartar covering the teeth, and causing all sorts of trouble, or suffering from periostitis, alveolar abscess, stomatitis, and other complications too numerous to mention. The prophylactic means of establishing hygiene in these cases are almost as varied as the diseases themselves, so that it is impossible to give them here; nevertheless, a few words on some will not be out of place.

Caries, which is the most common evil and which receives the most attention, we will pass over and consider tartar; this, when left in the mouth, will often make fearful havoc burrowing under the gums, robbing the teeth of their support, and causing them to become loose and even drop out; therefore it is necessary that all traces of it should be removed. This is difficult to accomplish, but very necessary, as the slightest portion left will form a nucleus for a fresh supply. With delicate instruments, acid sulph. aromat., time and perseverance, it can be done. When scaling, avoid as much as possible cutting towards the gum, as small pieces of tartar may be forced under by so doing.

In periostitis and the various kinds of stomatitis, &c., the object we have in view is to remove the cause.

We will now turn our attention to artificial dentures. The adaptation of these and the preparation of the mouth to receive them is a point of the greatest importance, and one which seems to be entirely ignored by a certain class. How often do we see a patient with a vulcanite plate, the teeth of which are very badly fitted over some loose and suppurating stumps, the gums blue with congestion, the breath (to say the least about it) very offensive, and the piece to all appearances not having been removed for months? When asked how often the plate is taken out, the patient remarks, "My dentist told me I mustn't take it out," also, that he would not remove the stumps and decayed teeth, as it would make the lips fall in. The object of this advice I fail to see. The idea of a plate being fitted over a lot of suppurating stumps, thus forming a reservoir for pus and other decomposing matters, is one which cannot be too loudly condemned. James I. in his "Counterblaste to Tobacco," made use of a sentence which might well be applied here, viz., that "it is a custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs, and in the black stinking fume thereof, nearest resembling the horrible stygian smoke of the pit that is bottomless." How can we expect

to get either oral or general hygiene under such circumstances? But this the charlatan cares nothing about, I say charlatan, because such a practice can only be carried on by that class of man.

In preparing a mouth for an artificial denture, there are several important things to be considered. All tartar should be removed, teeth filled, loose stumps and those that have "gone beyond recalling," extracted, as they are liable to irritate the gums. Roots of teeth that can be saved, should be antiseptically treated and filled, as they preserve the facial expression and form a firm basis for the artificial substitutes. Bands and wires, holding up a plate, must be avoided as much as possible, as the part of the tooth so clasped gradually becomes soft and decays.

The cleaning of artificial teeth should receive as much, if not more, attention, than the natural organs. After every meal, in the morning and at night, the plate should be taken out and washed. I advocate the use of an ordinary nail brush and some soap and warm water.

It is not generally advisable to wear a plate at night, when sleeping, the mouth is in a healthier condition without it, and there is a liability of a small plate being swallowed; sometimes, however, in an edentulous mouth, the strain on the muscles is so great that it is painful to be without the teeth.

Expansion and Contraction of the Tooth Substance, BY R. CROMBIE, L.D.S.ED.

THAT the teeth, however perfect and free from decay, are readily effected by changes of temperature, is well known and recognised. The unpleasant and painful sensation accompanying the taking of unusually cold matter into the mouth is a sufficient indication of this fact, with which all are more or less familiar. But why it should be so is not so clear. The generally received idea regarding it seems to be that the tooth substance readily transmits the impression, in the same way as a copper wire conveys the electric current from a battery; but this cannot be. The materials of which the teeth are composed being sufficient proof in itself against it, for they are non-conducting, and could not therefore transmit impressions. Nature seemingly in order to protect the sensitive vessels enclosed within the tooth cavity

has invested them in an isolating vestment of the most compact matter contained in the composition of the animal body.

This recognised property inherent in bone and ivory is well known and appreciated in the arts, and used with advantage in many forms of usefulness. A very familiar one being the insulating of the handle by ivory rings of a silver hot water jug, or tea pot. Transmission then being unable to account for the painful sensation, how is it to be explained? We think the proper solution of the matter is found in the contraction of the tooth substance itself causing pressure on the vessels. Although the contractibility of bone, ivory, or enamel may not be much, still it is quite sufficient to account for all that takes place in causing the effect here referred to. It is peculiarly noticeable that extremely hot substances do not cause the same unpleasant sensation, in sound teeth, as extremely cold; but on the other hand, if the teeth are unsound, so that the vessels are exposed, then the impression is alike painful both with hot and cold substances.

Now we think the most likely way to account for this is that the vessels are in the case of cold, immediately pressed upon by the contracting walls of the teeth, whereas in the case of heat there is no such pressure, and the result is freedom from pain. This explanation of the matter seemingly is borne out by sufficient evidence to prove its correctness; but if any further were wanted it may be had by reflecting that the exterior and the interior components of a tooth are somewhat different, being formed from distinct sources, and that the outer covering is denser and harder in structure than the interior, the result of this being that the outer shell will not contract or expand at the same rate as the less dense inner one, and this is verified by actual observation.

The peculiar appearance presented by numbers of teeth, otherwise perfectly sound, having minute hair-like cracks all over their surface, cannot but be very noticeable to every dentist, and this appearance is especially evident on the front upper incisors of smokers. The effect of the alternate heat and cold causes expansion and contraction, and that expansion and contraction being unequal the outer and less yielding substance is obliged to give way; hence the cracks, thus showing us clearly what is taking place in the substance of the tooth. A very important practical consideration in connection with this subject is the effect it may have on the stopping in teeth. So far as I am aware the expansion and contraction of the tooth

substance has hitherto been overlooked, no account being taken of it ; but when it is properly considered it may yet prove an important factor in explaining many of the peculiar features exhibited in certain stoppings. For example, when a perfectly adapted plug is seen after a time to bulge or protrude beyond the edge of a cavity it is supposed to have been forced out of its place by moisture, gas, or a new deposit of material forming behind the stopping and thus lifting it up. If the expansion and contraction of the tooth substance itself is taken into account, there is no need to go further, as it explains the whole matter.

[We think this rather more decided a finale to the question, than is warranted by the evidence adduced or inferred.—ED. J.B.D.A.]

An Enquiry into Several Methods of Administering Nitrous Oxide Gas.

By FREDERIC HEWITT, B.A., M.B. Cantab.

ADMINISTRATOR OF ANÆSTHETICS TO CHARING CROSS HOSPITAL AND THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN ; ASSISTANT ANÆSTHETIST TO THE DENTAL HOSPITAL OF LONDON.

(Concluded from page 159.)

Method 7. I have only given the results of observations upon 100 fully recorded cases. (See Note on Table 1.)

3. With regard to the conclusions which may be drawn from the above observations and analyses, we may, I think, in the first place, dismiss the further consideration of gas administration according to Methods 1 and 2, remembering that a high percentage of non-successful cases may be met with. I may here refer to the fact that some patients require very little gas for the induction of complete anæsthesia, and such patients would, of course, become insensible with the two gallons of gas administered according to Methods 1 or 2. I can recollect a case in which six inspirations of gas were sufficient to thoroughly narcotise a young woman, from whom a tooth was extracted successfully. I shall refer to this case later on ; it is, of course, a very exceptional one, but I quote it as an example of the great differences which may be manifested by patients under the influence of nitrous oxide gas. With reference to Method 3, if economy in nitrous oxide were of greater importance, such a plan might be

advisable in hospital practice, but there are some few cases in which the administration of gas by this method does not induce perfect anaesthesia. The reason of this is that it is impossible to sufficiently rid the lungs of residual air by extrinsic respiration with such a small volume of gas. Although Method 3 was successful in most instances, I would not advise its adoption in all cases. The objections to Method 4 have already been incidentally referred to. Method 5 answered very well in the large majority of cases, but the objections to it which I mentioned at the commencement of the paragraph upon Method 6 must be borne in mind.

The disadvantages in all the preceding methods may be overcome by the administration of gas according to Method 6. The observation of a considerable number of cases has convinced me that this method possesses advantages over all others. The difference between Method 5 and Method 6 is that in the latter the patient is placed in communication with a large supply of gas, although, on the average, but a small amount is used. Those patients who require a small volume of gas by the ordinary method will consume no more by Method 6: and those to whom it is necessary to administer large volumes of gas by the ordinary method will require much less if Method 6 be adopted. Methods 5 and 6 differ from Method 7 in that gas is re-breathed after a certain length of time (different in each case). I am well aware that many authorities object to the to-and-fro respiration of a limited volume of gas; but, I would ask, upon what is their objection founded? There are, it is true, some undetermined respiratory products whose action is known to be deleterious when a limited atmosphere containing them is breathed for any length of time. In nitrous oxide narcosis, however, such is not the case. The period of inhalation preceding the anaesthesia is short, and I submit that there is no evidence to prove that such products of respiration exert any specifically noxious influence. Exhaled air is more loaded with moisture than inhaled air, and no doubt the same may be said of nitrous oxide; but this additional moisture can hardly make any difference in the nature of the anaesthesia induced. Again, the presence of carbonic acid has been said to exert an injurious effect; but, in nitrous oxide anaesthesia we have seen that carbonic acid is exhaled in diminished amount, and the experience of Clover led him to the belief that the inhalation of carbonic

acid in small quantities is not to be feared. It may be said that the method I advocate is similar to that in which the supplemental bag is employed. I do not deny this, but there are points of difference to which I shall subsequently allude.

In association with these remarks upon Method 6, I will say a few words with regard to the analyses which were conducted upon expired nitrous oxide gas. The results in Table III. corroborate Mr. Coleman's and Dr. Amory's statements with reference to the diminished elimination of carbonic acid during nitrous oxide anæsthesia. The diminution in the oxygen tension of the pulmonary alveoli, consequent upon deprivation of oxygen, necessarily leads to lessened absorption of this gas; oxidation throughout the body hence becomes diminished, and less carbonic acid is thrown into the blood. But the carbonic acid tension of the pulmonary alveoli is probably never *nil*; for, assuming that this gas passes from the blood by a process of diffusion similar to that by which oxygen passes in the opposite direction, and remembering the physiological fact that the tissues of the body continue to evolve carbonic acid even though no oxygen is admitted to them, the blood of the pulmonary artery during nitrous oxide anæsthesia must still contain carbonic acid, and must still give up some of this gas (though a diminished amount) to the pulmonary alveoli. It is, therefore, obvious why we find a diminution in the carbonic acid in the results to which I have alluded. Let us compare the figures obtained by a calculation from Professor Frankland's and Mr. Coleman's results, viz., those marked C and D, with my own figures in the second half of Table III. The results in C and D were arrived at by calculation from the figures in A and B: the results in the second half of Table III. were similarly calculated from the figures in the first half. Professor Frankland made analyses of *single expirations* from patients under nitrous oxide: Dr. Percy Frankland and myself have made analyses of expired gas collected in a manner which I have fully described, and which differs essentially from Mr. Coleman's mode of collecting the expired gas. (See Method 6, and Table II.) Any comparison, therefore, between our results can only be made by putting out of the question the nitrous oxide present in the collected samples, and by calculating the percentage composition of the other gases. But even if this be done, the results can hardly be rendered strictly comparable; for in Professor Frankland's figures we have the analyses of single expirations, whilst in my own experiments we

have the analyses of a consecutive number of expirations under gas. Bearing these facts in mind, it will be seen that the highest percentage of carbonic acid (viz., 13.36) was reached in the first expiration under nitrous oxide, whilst the lowest proportion of carbonic acid (viz., 5.9) was found when the lungs had been washed out with as many as twenty-five inspirations of gas, and eight intrinsic respirations had taken place; in other words, when anaesthesia was fully developed. It is obvious that if only one expiration had been analysed after twenty-five expirations had been allowed to flush out the lungs, much less carbonic acid than 5.9 per cent. would have been recorded, so that the very great diminution in the exhalation of carbonic acid is placed beyond a doubt. I wish to call special attention to the fact that the percentage of carbonic acid *in the bag* at the end of the administration to which I have just referred was only .64. (See Table III.)

With regard to the oxygen in expired nitrous oxide gas, it will be seen by the analyses of the gases other than nitrous oxide that a considerable percentage of oxygen is present. (See C and D and second half of Table III.) This points to the well-known difficulty of getting rid of the residual air in the lungs. In each of Mr. Coleman's administrations the lungs were emptied as much as possible by a deep expiration before the inhalation commenced. This precaution would, of course, get rid of a good deal of oxygen. In my own experiments such was not done—the air contained in the lungs was washed out, as it were, by the gas inhaled. It is, at first sight, difficult to explain the high percentage of oxygen. Physiologists teach that in ordinary respiration the oxygen-tension in the alveoli probably never falls below ten per cent., but in nitrous oxide anaesthesia it must gradually become less than this. If a patient be allowed to inhale fresh nitrous oxide at each inspiration, most of the oxygen will get washed out of the lungs, diffusing itself with the exhaled nitrous oxide, whilst some will be absorbed by the blood of the pulmonary capillaries during the progressive anaesthesia. The rest of the oxygen will remain in the air passages, and the results in Tables II. and III. point to this fact. For example, in Administration 2 (Tables II. and III.) twenty-five inhalations of nitrous oxide were allowed to escape by an expiratory valve before the contents of a two-gallon bag filled with gas were breathed backwards and forwards eight times. The analysis of the contents of the bag after the administration shows a percentage of 1.22 of oxygen, or, roughly speaking, about

110·85ccm. of oxygen in the two-gallon (9086·9ccm.) bag. Now, this amount of oxygen was exhaled in eight expirations. The *average* amount, therefore, in each of these expirations was 13·85ccm. Reckoning the amount of tidal air at 500ccm., and assuming that during nitrous oxide anæsthesia the average expiration measures about this volume, we may calculate roughly that the average percentage of oxygen in each of the eight expirations under nitrous oxide was 2·77. These results cannot be said to pretend to accuracy; but at all events they tend to show that, after the lungs have been washed out, so to speak, with as many as twenty-five respirations of nitrous oxide, the expired gas still contains a considerable amount of oxygen. Now, if the figures in Administrations 1 and 3 be subjected to the same treatment, it will be found that the average percentage of oxygen in each expiration under nitrous oxide in these experiments was 2·19 and 2·03 respectively—in other words, there is not much difference in the three cases. The difficulty in getting rid of the oxygen by diffusion is therefore evident, and the figures in Table III. point to the same conclusion with regard to the nitrogen.

The outcome of the above observations may be thus stated: If the lungs of a patient be washed out, as it were, by nitrous oxide, so that a considerable portion of the residual air is expelled (extrinsic respiration), and if, after this has been accomplished, a limited volume of gas be presented to him for to-and-fro (intrinsic) breathing, more oxygen, nitrogen, and carbonic acid will remain for respiration than would have remained had the extrinsic form of breathing been carried on throughout the administration.

4. The question which I proposed to discuss last of all has now resolved itself into a consideration of the advantages which are to be derived from the administration of nitrous oxide according to Method 6, and I shall now go on to consider these advantages.

Firstly, with regard to the length of time during which anæsthesia persists; although I have not drawn up any statistical statements with reference to this question, I can confidently assert that *the period of anæsthesia in Method 6 is, as a rule, longer than that of any other method in general use.* I am not including M. Paul Bert's modes of administration, and am sorry that I have not yet had the opportunity of trying them, but I allude to the ordinary methods of giving gas with or without the supplemental bag.

If I were asked to say why the method I am advocating induces an anæsthesia which is more prolonged than that met with in other

methods, I should be reduced to theoretical arguments. Let me submit the following considerations. The period during which anæsthesia persists depends, as a rule, upon the amount of gas which can be thrown into the circulation. If pure nitrous oxide be inhaled at each inspiration, the length of time during which respiration will proceed will depend upon the susceptibility of the higher centres—principally the respiratory centre. When this centre refuses to send down rhythmical impulses to the respiratory muscles, breathing becomes embarrassed, and the face-piece has to be removed. If the period of inhalation has been long, the length of time during which anæsthesia will persist will, *cæteris paribus*, be of considerable duration; and *vice versâ*. If we wish, therefore, to induce a prolonged anæsthesia we must take steps to keep the respiratory centre in action as long as possible. In other words, we must endeavour to get a large volume of gas absorbed. There are some cases—and I will describe one of them—in which respiration soon becomes embarrassed when nitrous oxide is administered in the ordinary way. It is impossible to foretell the occurrence of such cases when gas is thus administered; but I shall show that it is possible to obviate their occurrence by administering gas in the way I have suggested. As an example of the class of cases above referred to, I will quote the following: A young woman, æt. 22, well made, and of healthy appearance, presented herself at the National Dental Hospital as a gas patient. Six inspirations only were required to elicit all the signs of anæsthesia, viz., stertor, lividity, corneal insensibility and twitching of the fingers. Her pulse before the inhalation commenced was 90—100 per minute. Her respirations whilst inhaling the gas were about 12 per minute. The face-piece was removed when the respiration became jerky and the fingers began to twitch. One tooth was extracted without pain. The period of anæsthesia was short, although the unconsciousness while it lasted was profound.

The above case teaches a great deal. The reason of the short period of anæsthesia in all probability was that the blood was only partially loaded with nitrous oxide; in other words, that at the sixth inspiration (45th or 50th heart-beat), when the face-piece was removed, the blood which was circulating in the cerebral centres was so charged with nitrous oxide, and so deficient in oxy-hæmoglobin, that asphyxial symptoms supervened. At this moment air had to be admitted. Now, it is probable, that the blood had not

performed the whole vascular circuit when the face-piece was removed, for experiments upon the lower animals have shown that there is some increase in the capillary resistance in nitrous oxide narcosis, and if this were the case the blood would remain longer in the capillaries. Hence we may infer that the blood was unequally charged with nitrous oxide, and that when respiration became embarrassed, in consequence of the large amount of nitrous oxide in the cerebral blood at the 45th or 50th heart-beat blood was still coming to the lungs charged with but a small percentage of nitrous oxide. This blood coming to the lungs would have taken up more nitrous oxide, but as the respiratory movements became embarrassed, such an absorption could not take place. Cases in which only six respirations are sufficient to induce anaesthesia are exceptional. I only mention the above as an extreme instance of the great susceptibility of the respiratory centre. The average number of respirations required to induce anaesthesia by the ordinary method (Method 7) was 29. Even in these cases respiration would proceed further were it possible to present to the respiratory centre a blood not totally deficient in oxy-haemoglobin. It is obviously necessary that the blood going to the brain, should be charged to a certain extent with nitrous oxide, or we shall not obtain the anaesthetic effect dependent upon the action of the gas. Our endeavour, indeed, should be to keep the respiratory centre in working order as long as possible, and to supply to the brain a blood sufficiently narcotic in its action for anaesthesia to be perfectly established. If we load the blood, or a portion of it with too much nitrous oxide, the anaesthesia which results will, it is true, be profound, but it will be transitory; for the respiratory centre will cease to act, and air must be admitted. If, on the other hand, we do not supply enough nitrous oxide to the blood, the respiratory centre will go on acting, but narcosis will not be sufficiently pronounced.

The indications to which I have alluded above may be best fulfilled by administering gas according to Method 6. Bearing in mind the considerations I have brought forward with regard to the action of the blood upon the respiratory centre, I would submit the following as a probable explanation of the action of this method of gas administration: *If, after allowing the patient to breathe pure gas until anaesthesia commences, we present to the lungs, and so to the blood and cerebral centres, an atmosphere of nitrous oxide which is not quite so concentrated—in other words, one which*

contains a little oxygen—the respiratory centre will still continue to discharge rhythmical impulses, and so respiration will be allowed to proceed longer than it would proceed were fresh gas to be continuously inhaled. In this way the whole of the blood becomes saturated—not a portion of it—and the anæsthesia is prolonged.

If these principles had been applied to the peculiar case which I have related, respiration would doubtless have been carried on for a longer period; for, at about the third inspiration, some evidence of commencing anæsthesia would have been detected, and intrinsic instead of extrinsic breathing would have been employed—that is to say, a less concentrated gas would have been presented to the lungs and nerve-centres at the fourth and fifth inspiration, and so breathing would have been permitted to continue for a longer period, and more nitrous oxide would have been absorbed by the blood. In this way anæsthesia would have been more prolonged.

The above theory will apply, not only to Method 6, but also to the use of the supplemental bag in administering gas. I have before referred to the use of this bag. If nitrous oxide be administered by its aid in such a way that the gases presented to the lungs are similarly proportioned to those inhaled during the intrinsic respiration in Method 6, there is no reason why the anæsthesia in the one case should differ from that in the other. My experience, however, has led me to the conclusion that the anæsthesia induced by Method 6 is, as a rule, more satisfactory both in length and intensity than that obtained by the employment of the supplemental bag; and I imagine that such differences depend upon the composition of the gases presented to the lungs in each case.

Secondly.—So far as my observations have gone, the anæsthesia induced by Method 6 is of a quiet kind, and excitement during or after the operation is not so frequent as in other methods. I have observed no ill after-effects.

Thirdly.—It will be seen (Table I.) that this method, as compared with Method 7, is much more economical; the average amount of gas per patient is $3\frac{1}{2}$ gallons.

I do not lay claim to any originality in the principles of the method I have supported. The re-inhalation of a portion of gas after extrinsic respiration has been resorted to by other means than those which I have described. By having an expiratory valve, but no inspiratory valve to the face-piece, gas may be

breathed and exhaled for the most part by the expiratory valve, though some passes back into the bag. After a certain time the expiratory valve may be pressed down, and to-and-fro respiration takes place. This rough plan has the obvious disadvantage that a portion of the earlier expirations (which are rich in oxygen) passes back into the bag, and undesirable results may ensue from inhaling this mixture early in the administration.

Messrs. Krohne and Sesemann, of Duke Street, Manchester Square, W., and Messrs. Barth and Co., of 54, Poland Street, Oxford Street, W., supply the reversible face-pieces (which can be adapted to the ordinary two-way stopcock) as well as other portions of apparatus which I have mentioned in the above paper.

HOSPITAL REPORTS AND CASES IN PRACTICE.

Case of Caries of Alveolus of Upper Maxillary Bone.

By GRENVILLE HORATIO JONES, L.D.S., Wrexham.

T. D., ætat. 40, collier, married, of a nervous disposition and subject to biliousness, consulted me six months ago with regard to a nasty foetid discharge which proceeded from the left canine fossa of the upper maxilla, all the more irritable upon the patient inclining his head backwards, the pus then exuding all over the palate. His health was good, and he had always been sober and steady, and was free from any syphilitic taint; no history of accident. Cold seemed to aggravate the symptoms and caused the cheek to swell, which led me to diagnose the case as one of antral mischief.

Previous to consulting me he had had some stumps removed by a country practitioner and also by another gentleman. He had been ordered a dressing of iodine and aconite, and that, instead of relieving, only intensified the mischief. He then placed himself in the hands of his doctor (Mr. H. V. Palin), who seeing the case was out of his province sent him to me.

I took particulars of the case and history, and on examination of the cavity, which was no larger than the size of pin wire, I found I could pass up a fine probe about two inches in length. Dr. Palin suggested operating, if the patient would consent; in the meanwhile I told him to discontinue the dressing, and ordered him to syringe with a weak solution of Condyl's fluid. Not being

satisfied, he went to Liverpool and placed himself under treatment at the Dental Hospital, where the cavity was examined and a small spicula of bone was removed, afterwards syringing out with Condy's fluid, and the patient was discharged as cured. He called upon me again in a month, not having obtained the desired relief, so after some persuasion he consented to place himself under the care of Dr. Palin, who retained him as an in-patient in the Wrexham Infirmary (he was admitted on the 2nd November, 1885, and was discharged on the 16th as in-patient). The patient was placed under chloroform, and the seat of the mischief cut down to, when on careful examination it was found that part of the alveolar ridge was in a state of caries. This portion, containing the canine fossa, was removed by means of bone forceps; there was no bleeding, the parts healed by granulation; he was kept in the Infirmary, and the gap was daily dressed with carbolized lint by Mr. Johnstone, the house surgeon. There was very little discharge, and at the end of a fortnight the patient was ordered to attend as an out-patient. He continued to progress satisfactorily, and at the end of the month he was told to show himself occasionally. A speedy recovery resulted.

Notes on a Case of Deafness.

BY WILLIAM ELLIOTT, L.D.S. EDIN., Birmingham.

I HAVE thought notes of the following case may not be without interest. Miss W. was sent me by her medical attendant on December 28th, complaining of pain in the left first upper molar with deafness on the same side and sleeplessness. She had for a week previously been taking night draughts. The deafness was such that I had some difficulty in making her hear me when standing on her left side. The pain in this tooth and the deafness came on about a week subsequent to a severe attack of neuralgia of the vertex on the same side. Upon examining the tooth of which she complained, I found a carious cavity on the mesial surface which I temporarily plugged. The next day, as there was no relief of pain, I made a further examination and found a cavity upon the buccal surface of the lower wisdom tooth; neither of these cavities were in the slightest degree sensitive to any thermal changes or to pressure. I plugged each with a dressing of oil of cloves. Two days after she was better, but still

very deaf and suffering some pain and could not sleep at night. I renewed the dressings. Two days later she was considerably better with very little deafness, but still sleepless at night. On January 6th I again saw her, when she complained of pain occasionally in the upper tooth but had no deafness. On January 11th I filled the cavities with gutta percha, and they have remained comfortable up to the present time.

Remarks.—The interest attaching to this case is, that there was nothing apparently in the condition of either cavity to account for these symptoms, neither being sensible to any external influence; that from first to last she never complained of pain in the wisdom tooth, which was no doubt the cause of the mischief, nor did she know it was carious. The association of the pain at the vertex involving the area supplied by the auriculo-temporal, and the deafness through the relation of the tensor tympani is apparent, but the pain being felt in a tooth far removed from this nerve continuity, appears to me only explainable in the same manner as holds good for the knee pain in hip disease. The patient knew the upper molar was carious, but knew nothing of the lower wisdom, and the hyperæmic condition in the area adjacent to the wisdom would, probably, tend to transfer the impression of pain to another part or to the only carious tooth of which the patient possessed any knowledge.

REPORTS OF SOCIETIES AND OTHER MEETINGS.

The Odontological Society of Great Britain.

At the usual monthly meeting of the Society held on the 1st ult., Mr. T. CHARTERS WHITE, President, in the chair, the Secretary showed a model, sent by Mr. FORAN, of Eastbourne, of the mouth of a girl, aged thirteen, who five years ago lost the four lower incisors from necrosis, consequent on a severe attack of typhoid fever. Soon after, the canines were erupted and moved forwards into the vacant space, and now the gap was nearly, and as the President remarked, would when the wisdom teeth appeared, probably be completely closed up.

Mr. WHATFORD, of Eastbourne, showed a model of the upper jaw of a young man aged eighteen, showing absence of the bicuspid teeth on either side; the temporary canines were re-

tained. The patient's father and younger brother presented the same peculiarities. The facts with regard to the temporary molars were not quite clear, but Mr. Whatford believed that they had not been erupted.

Mr. STORER BENNETT showed a number of specimens sent by Dr. Herbst, of Bremen, illustrating the latest developments of the rotation method. Amongst them was a new ring matrix, which Mr. Bennett said he had tried and found very satisfactory, and samples of some No. 30 gold foil made by Wolrab, of Bremen. The others were for the most part similar to those sent by Dr. Herbst for exhibition last year.

Dr. FIELD exhibited the cordless dental engine made by Messrs. Jamieson, of which we gave a description last month. He also showed two scalers, referred to by Dr. Harlan at the previous meeting, for removing tartar from the lower molars.

The PRESIDENT then called on Dr. Dudley Buxton to read his paper on "the Physiological Action of Nitrous Oxide."

Dr. BUXTON said the subject he had chosen was one which had been brought before the Society on several previous occasions and in which the Society had always taken a keen interest; it was, moreover, one which the members could discuss from the standpoint of experience. It had, however, become so obscured by conflicting theories and experimental results that he had been induced to make an attempt to clear up some of the debated points and harmonise some discordant conclusions. As the subject was a wide one, he had obtained permission to divide his paper into two parts, and he proposed that evening to bring in review the facts as yet known bearing upon the physiological action of nitrous oxide, and to indicate how far the conclusions drawn from them corresponded with present experience, reserving for another occasion the more strictly experimental part of his researches. It would, therefore, be his aim so to marshal the facts already known, that their true bearing might be made clear, and the gaps which still existed in the chain of evidence might be apparent.

Nitrous oxide was said to produce a state of anæsthesia, or loss of sensation; it also gave rise to certain emotional states, acting to some extent as a stimulant; and it produced certain effects on the respiration, circulation and on the muscular system. These were the apparent effects of nitrous oxide, but it would be found that some of them were not due to the gas, but were merely accidental complications due to the method of administering it.

The main point of interest in the physiological action of nitrous oxide was its anæsthetic effect. This might arise from want of action of the sensory end-organs, of the conducting sensory nerve fibres, or of the receiving and perceptive centres. The last-named were the parts acted on by nitrous oxide, sensation being retained during its administration until the perceptive centres became incapable of receiving impressions, and during the stage immediately preceding loss of consciousness persons under its influence were hyperæsthetic, owing to the fact that whilst the functions of the receiving and conducting organs were unimpaired, the central controlling and perceptive functions of the brain were weakened.

The next point to be considered was by what means the gas entered the system and was enabled to exert its influence on the nerve centres.

At one time it was believed that nitrous oxide acted as an oxidising agent by splitting up in the body into oxygen and nitrogen compounds, but it was now established as a fact that no such decomposition took place, and Dr. Buxton suggested that it probably entered into combination with the colouring matter of the blood, as it was known that carbon monoxide, hydrocyanic acid, and the nitrites were capable of doing, though this was difficult of proof. It had also been asserted that nitrous oxide acted simply as an irrespirable gas, just as would hydrogen or nitrogen, and that, in fact, the insensibility produced by it was only a form of asphyxia; but though, as ordinarily administered, its effects were mixed up with asphyxial complications, the two conditions were quite distinct. Thus, in asphyxia, there was a rapid rise of blood pressure which persisted during the first and second stages, those of dyspnoea and convulsions, together with an acceleration of the heart-beat; during the third stage, that of exhaustion, the blood pressure fell rapidly, the heart-beats became slow and feeble and finally ceased, the whole process lasting some four or five minutes. In nitrous oxide narcosis there was also a marked acceleration of the pulse, but in the course of a large number of sphygmographic tracings, Dr. Buxton had never found any decided increase of tension, and generally a marked diminution. So also with regard to the respiratory changes. When nitrogen was breathed no change took place in the respiration at first; then came the tumultuous breathing of dyspnoea; subsequently expiration became markedly in excess of inspiration, and expiratory convulsions ensued. Under the influence of nitrous oxide the respirations were

at first increased in number, but were otherwise regular, then became slower, and finally stertorous. Of course, if carried on long enough, the inspiration of nitrous oxide would be followed by death from asphyxia, but the narcosis and the asphyxia were quite independent of one another, and if a sufficient supply of oxygen could be afforded, as in the well-known method of administering the gas devised by M. Paul Bert, the narcosis could be indefinitely prolonged.

It might then be concluded that nitrous oxide produced narcosis by virtue of other than asphyxiating qualities, but that entering the blood through the lungs it exercised a specific action upon the nervous centres. This explained an otherwise anomalous fact, viz., that certain persons evinced the utmost toleration of nitrous oxide, resisting its action for a minute or more, and requiring a very large dose to produce the desired effect.

It was impossible for him to enter upon the discussion of the nature of this specific action within the time at his disposal, and he would reserve this for elaboration in another paper, when he hoped to return to the consideration of a subject which was as difficult as it was interesting, and as complex as it was important.

In the course of the discussion which followed, Mr. BRAINE said he agreed with Dr. Buxton as far as he had gone, but he had only dealt with a part, and the least important part of his subject. He thought it would be better to wait until they had the rest of the paper and then discuss it as a whole.

Mr. BOWMAN MACLEOD said that when making his own gas he found that the first portion which came over when the nitrate of ammonia was heated, produced the symptoms formerly thought to be characteristic of the gas, viz., intense exhilaration and uncontrollable excitement, whilst that which came over afterwards produced only placidly exhilarating, rapidly followed by narcotic, effects. Had Dr. Buxton noticed this difference, and could he give any explanation of it?

Mr. BIRD remarked on the difficulty of ascertaining accurately the effects of the gas, since they varied so considerably in different individuals according to their mental and physical state. In order to get perfectly normal results, it was necessary to secure a succession of perfectly normal patients.

Mr. HUTCHINSON pointed out that the conditions of nitrous oxide narcosis differed greatly according as the gas was given with the expiratory valve closed or open. In the one case, the gas and

expired air being rebreathed, there was excess of nitrogen with deficiency of oxygen, whilst in the other there was deprivation of oxygen.

Dr. HEWITT thought that the anæsthesia produced by giving nitrous acid in the ordinary way was partly the result of the narcotic effect of the gas, and partly asphyxial from deprivation of oxygen. By the use of the supplemental bag the asphyxial symptoms could be delayed and anæsthesia could be maintained for a longer time, a small quantity of oxygen being supplied with each inspiration. He had found by analysis that at the end of an ordinary administration of gas, a two gallon supplemental bag still contained two or three per cent. of oxygen.

Mr. HENRI WEISS said it was good news to learn that the blood pressure was reduced during the administration of nitrous oxide, and not increased as had generally been supposed to be the case, and that there need not therefore be any hesitation in giving the gas to persons of full habit for fear of increasing their liability to apoplexy.

Dr. BUXTON having replied, the President thanked him in the name of the Society for his paper, the promised continuation of which would be looked forward to with great interest.

He then announced that the next meeting would be devoted entirely to Casual Communications, of which a good supply had already been promised, and closed the meeting.

The meeting held on the 5th inst., Mr. T. CHARTERS WHITE, President, in the chair, was devoted entirely to the reading of Casual Communications, the usual formal paper being dispensed with. The experiment may, we think, be reported a success, and one likely to be repeated in future sessions.

The PRESIDENT mentioned the case of a lady who had visited him that morning wearing a partial denture in vulcanite, carrying the four lower incisors, and which had originally been attached by wire clasps to the canines. But these teeth had come out and the plate was then kept in place for some time solely by the pressure of the lower lip. As the result of this pressure the mucous membrane opposite the spaces where the canines had been had become hypertrophied, and the wire bands were completely buried in two large masses of thickened and indurated mucous membrane. The patient had not been able to remove the denture for two years, and

it had become so coated with tartar that it was impossible to say what it was made of until some of the incrustation had been removed.

Dr. WALKER exhibited a very instructive series of specimens, illustrating the various stages and adaptations of Continuous Gum work, and made some practical remarks on this subject. There were three sets of specimens showing the various stages of the work as applied to partial plate-mountings, partial bar-mountings, and full dentures, all carried out by means of Verrier's furnace. By means of this furnace it was now possible to prepare either partial or full Continuous Gum dentures with but little expenditure of time and with very satisfactory results. The principal objections which had been brought against the work were the alleged difficulty of repairing or adding to a denture, its weight, and the difficulty of securing an accurate fit. Dr. Walker showed by specimens that it was quite possible to add to or repair a denture, and exhibited the models with the plates to show the fit. He also called attention to the lightness of some vulcanite plates with Continuous Gum mountings, prepared according to Mr. Balkwill's method. He had generally used Allen's gum body and enamel supplied by the S. S. White Company, but had lately tried some prepared by Messrs. Ash, and had found it quite satisfactory. It had also the advantage of fusing at a somewhat lower temperature than the American preparations. It was in the preparation of full dentures that most care and skill was required, and Dr. Walker explained his arrangement of the platina lining to guard against cracking, by equalising the expansion of the metal by heat and its contraction on cooling. It was not advisable to attempt to fuse a full denture at one firing; it was better to fuse the alveolar border first, then reverse the position of the piece in the muffle and fire again to fuse the palate.

Dr. CUNNINGHAM said that when he brought this subject before the Society earlier in the session, Dr. Walker had asserted that the "checking" he then complained of was due to a deficient supply of gas; but this was not the case. He had an ample gas supply, and the S. S. White Company, to whom he had applied, said they could not explain the cause of the failure. He was glad to be able to add that since his last communication his experience of the method had been much more satisfactory, and he could now show results quite as good as Dr. Walker's.

Mr. Walter Coffin and the President also made some remarks on the subject and Dr. Walker replied.

Mr. WALTER COFFIN showed models of a regulation case treated by his brother, Mr. Harold Coffin, by means of the expansion plate with very successful results. The patient was an Oxford undergraduate between twenty-four and twenty-five years of age. There was narrowing of the arch on one side to such an extent as to cause positive deformity of the face, the canine being forced quite outside. The treatment occupied five months.

Dr. ST. GEORGE ELLIOTT showed some contrivances which he had found useful in practice, including a small paraffin lamp with glass-holder for heating water, a rotary knife fitted to the dental engine for cutting crystal gold, some points made of raw hide for polishing gold fillings, &c.

Dr. GEO. CUNNINGHAM read notes of a case of tetanus which he thought had been caused by dental irritation.

The patient, a strong healthy Cambridge undergraduate, nineteen years of age, early in November last accidentally bit upon a fragment of bone which was driven into a carious cavity in the left upper first molar, causing extreme pain for a short time. He continued in good health for two months after this, but on January 20th, after riding home from a party outside a cab on a bitterly cold night, he again had pain in the tooth and consulted a dentist who filled the cavity with amalgam. A few days after this he began to feel a stiffness in his lower jaw, for which he consulted Mr. Wherry, the well-known surgeon of Cambridge. Mr. Wherry, thinking the spasm might be due to an impacted wisdom tooth, sent the patient to Dr. Cunningham, who could find no evidence of anything wrong with the third molars, but finding the molar which had lately been filled sensitive to percussion he removed the stopping and found a minute exposure of the pulp. A dressing of carbolised resin was applied. On February 5th the symptoms of tetanus were more marked. The patient could only swallow liquids, and the spasms had extended from the muscles of the face to those of the neck, thorax, and abdomen. The carious molar was now extracted under chloroform as being a possible source of irritation, but without in any way checking the progress of the disease. The spasms extended to the limbs, and the patient remained for some time in a very critical state. But after the end of the third week he began to improve and slowly recovered. The point of interest in the case, so far as the Society was concerned, was whether the disease was of traumatic or of idiopathic origin, and he should be glad to hear the opinion of members with reference to this.

In reply to a question from Mr. Storer Bennett, Dr. Cunningham added that so far as could be judged from naked eye appearance the pulp appeared to be healthy.

The PRESIDENT thought that, considering all the circumstances of the case, the probability was against the suggested dental origin of the disease, and this opinion seemed to be generally acquiesced in by the members present.

Mr. BOYD WALLIS read notes of a case of facial spasm, &c., due to diseased teeth, and illustrating the suffering that may arise from this cause. A lady, aged thirty-two, was sent to him by a medical friend. She was thin, pale, and evidently in delicate health; she had been suffering for some time from spasmodic contraction of the muscles of the right side of the face, with loss of power in the eye-lid, and severe neuralgia, with occasional pain in one or other of her molar teeth, most of which were more or less decayed. Tonics and change of air had been persevered in with little or no benefit. Mr. Wallis removed five of the worst teeth under gas and ether; all were completely broken down with decay, and one of them abscessed. As the result of this the patient at once lost her pain, which had been almost constant for six weeks previously, her face regained its normal condition, and her general health rapidly improved.

Mr. MAGGS read notes of two cases of pedunculated epulis which he had successfully treated by ligature and cauterizing the stump of the peduncle. He thought that as the majority of these growths were of a simple fibrous nature, the treatment generally adopted of excising the alveolus from which they spring was unnecessarily severe, and might often be omitted without any bad results following.

Mr. BETTS remarked that epuloid growths were not very often pedunculated. When it was not possible to tie, he had obtained very good results from painting with ethylate of sodium, which destroyed the growth and gave no pain.

Mr. HEPBURN thought that the growths described by Mr. Maggs were rather of the nature of polypi than of epulis. The former might safely be excised, and if the source of irritation was removed there was little chance of recurrence; but in the case of epuloid growths it was necessary not only to remove the root or tooth which appeared to have originated the tumour, but also thoroughly to clear out the socket whence it came.

Dr. CUNNINGHAM thought that cases of true epulis were more

often than not aggravated by mild treatment, such as excision, and that it was better to operate effectually once for all.

Mr. STORER BENNETT was of the same opinion. Cases of simple hypertrophy of the gum, such as those described by Mr. Maggs, were easily treated; but epulis, especially in patients of middle age, was not so easily got rid of.

The discussion was continued by Dr. Walker, Dr. St. George Elliott, and Messrs. Hern, Boyd Wallis, Stocken, Underwood, and Walter Coffin; after which Mr. Maggs replied, pointing out that the removal of the tooth which had given rise to the growth was followed as a natural result by absorption of its alveolus, and with it in most cases the tissues from which the growth had sprung. He still thought, therefore, that where the tumour appeared to spring from a limited base, the treatment he had adopted was sufficient.

The PRESIDENT proposed a vote of thanks to the contributors of communications during the evening, remarking on the instructive character of the cases which had been brought forward, and announced that at the meeting on May 3rd, Mr. Storer Bennett would read a paper, describing some of the chief recent additions to the Museum.

The Society then adjourned.

The Dental Hospital of London.

THE Twenty-Eighth Annual General Meeting of this Charity was held last Thursday at the Hospital in Leicester Square. Sir Henry W. Peek, Bart, J.P. (who presided) was supported by Sir Edwin Saunders, Messrs. W. Ash, F. Canton, G. H. Bailey, M. Durlacher, W. F. Forsyth, G. Gregson, David Hepburn, R. Hepburn, S. J. Hutchinson, G. A. Ibbetson (Hon. Sec.), James Parkinson, H. M. Phillips, T. A. Rogers, S. W. Sibley, Morton Smale (Dean), T. Underwood and others.

The committee's report for 1885 stated that the past year had been comparatively one of prosperity. The total amount received for the general fund was £1,654 os. 1d., as against £1,662 os. 10d., the donations of life governors, £265, against £325 5s.; the general donations, £119 7s. 9d., against £110 3s. 3d.; and the annual subscriptions, £703 16s., against £673 11s. 6d. in 1884. The amount received from the Hospital Sunday Fund was

£68 os. 10d., and from the Saturday Fund, £32 17s. 10d. Whilst gratified that they had during the year been enabled to reduce the mortgage debt on the Hospital by £500, the committee regretted there was still a deficit of £3,000 in the mortgage debt account.

The report of the medical committee showed that the total number of operations performed last year was 881 in excess of 1884. The continued increase in the number of patients had made it necessary to provide additional accommodation in the stopping department, and a room had been fitted up for this purpose with the necessary chairs, appliances, &c. This extra accommodation would necessarily prove an additional expense to the Charity. The services of Mr. Abernethy Burrows had been secured in place of the Rev. G. B. Twining (resigned) as co-auditor with Mr. G. C. Ash. During the year Mr. Samuel Cartwright was elected a vice-president, causing a vacancy on the managing committee, which had been filled by Mr. Cuthbert Peek (son of the Chairman). In addition to Mr. Samuel Cartwright, Mr. Gladstone and Mr. Thomas Hyde Hills had, during the past year, been added to the vice-presidents.

The report and accounts having been adopted, the following gentlemen were re-elected on the Committee of Management—Messrs. W. Ash, M. Durlacher, W. F. Forsyth, G. Lambert, A. Marsh, H. Moon, C. S. Tones, A. J. Woodhouse. Mr. Walter Hills having been elected on the Committee of Management, the meeting unanimously re-elected Mr. R. C. L. Bevan as treasurer, and Messrs. G. C. Ash and F. A. Burrows, as auditors.

A vote of thanks was accorded to the Treasurer, Chairman, Vice-Chairman, the Committee of Management, Medical Officers, Auditors, and Hon. Secretary; also to the Finance and House Committees for their unremitting attention to the affairs of the Hospital.

The CHAIRMAN then remarked that he considered the small attendance as a good sign, showing as it did, the evident satisfaction of the subscribers with the management of the Charity. Were they not satisfied they would come to the meeting and exercise the privilege of Englishmen—viz., that of complaining. When asked to take the chair he was rather strange to the work of the Hospital, but having very carefully perused the annual report, he considered it a most satisfactory one. No fewer than 39,000 poor persons had been benefited in the past year, being an

increase of 881 over the number in 1884. He had not the slightest hesitation in saying that the rich equally with the poor benefited by such an Institution. As one of the Governors of Guy's Hospital, he continually saw the great advantage to the community at large of first-rate medical schools. There were many like himself who looked forward to residing in the country and there they felt equally with the poor the great advantage of practitioners, who had passed through such a school as theirs. One particularly satisfactory part of the report was the improvement in the annual subscriptions, which showed a gradual increase. Such subscriptions were the backbone of charities, and whilst enabling their usefulness to be extended, relieved the anxieties of those who were willing to give time to their affairs. Although the progress of this Hospital had been like the growth of a good strong oak tree—slow and sure—he should like to see it even in a better financial position. One matter which troubled Sir Edwin Saunders and the Committee was the probability that the Hospital might, owing to proposed Metropolitan improvements, have to be removed, and so be shorn of its present proportions, convenient position and invaluable North light. He hoped not; but if any improvements caused its removal, he trusted that such pressure would be brought to bear upon the Metropolitan Board of Works as to induce them to leave a good frontage site. It appeared to him that there were two classes of the community who ought to support the Dental Hospital—viz., those who had suffered from the teeth, and those who had not. Those who knew the sufferings of toothache should do all they could to support an Institution which did so much to relieve the pain of the sufferers from that complaint; and those who did not know were bound to give a thank-offering to the Hospital for the blessing of freedom from the pain. From the many applications to him for the cards he had to give away he was familiar with the relief which young servants especially had obtained from treatment at the Hospital, and he was being continually and most warmly thanked by them for the relief which they had obtained from the misery caused when the teeth were out of order. The Medical Committee reported: "The students have worked zealously, and the medical staff have very great pleasure in being able to say that at the autumn examination for the diploma in dental surgery of the Royal College of Surgeons, 14 students of the London School of Dental Surgery presented themselves for examination, and all were successful."

That showed not only that the students were made of the right stuff, but that the instruction they received was of a very high character. Altogether, he had never read a more satisfactory report, and he trusted that for years to come the Dental Hospital of London might continue to fulfil the very useful work it had done so well in the past.

Sir EDWIN SAUNDERS, in proposing a vote of thanks to the Chairman, said that they might have wished for a larger audience to have listened to the words of counsel and encouragement just addressed to the meeting. But a small attendance was no new thing, nor was it peculiar to their meetings, for it was difficult to attract large numbers to the annual meetings of institutions well organised and firmly established in public favour. The appreciative words of the Chairman would be a great encouragement to those engaged in carrying out the beneficial operations of the Dental Hospital. He (Sir Edwin) could not forbear to quote a recent utterance of that "old man eloquent," Oliver Wendell Holmes, "I often think of the forlorn condition of the great personages of history in the days when there were no dentists—or none who would be recognised as such by the dental artists of to-day. I think of poor King David, a worn-out man at seventy, probably without teeth, certainly without spectacles; of poor George Washington, of Walter Savage Landor, and of his melancholy complaint that he did not mind losing his intellectual faculties, but the loss of his teeth he felt to be a great calamity. The dental profession has established and prolonged the reign of beauty. It has added to the charm of social intercourse, and lends perfection to the accents of eloquence. It has taken from old age its most unwelcome feature, and lengthened enjoyable human life far beyond the limit of the years when the toothless and poor blind patriarch might well exclaim, "I have no pleasure in them!" Rarely indeed had the value and advantages of their art been more fully and clearly stated, and never had they received more eloquent recognition. If their meetings had not been largely attended, it could not be denied that they had always been pleasant gatherings, for they had been presided over by those who were not only wealthy and what Americans call "prominent citizens," but who were also practical philanthropists who showed sympathy with the work of the Hospital. Thus they had had the experience of their excellent friend and treasurer, Mr. Bevan, so long identified with social, religious, and philanthropic move-

ments ; also Sir Charles McGrigor, a staunch friend of the Highland and other Scottish societies ; and of Lord Kinnaird, a warm friend and supporter of the Lock Hospital. But their present chairman had still stronger claims to the title of practical philanthropist. As the inventor of the school children's penny dinners—which was not only a great boon to the children, but was a most valuable lesson in thrift and the economic use of food—and, further, his having come promptly to the aid of the public, pending the slow action of the Corporation in rescuing from the spoiler, the speculative builder, the lovely and romantic country known as Burnham Beeches. Those were real and undeniable public benefits which should not be suffered to pass out of their grateful recollection. And since he (the speaker) came into the room, he had had another proof of their friend's great liberality, and the interest he took in the Dental Hospital, for he had already been a most liberal supporter, but he had now given him (Sir Edwin) 100 guineas towards its funds. He asked them to join him in thanking the chairman.

Mr. T. A. ROGERS seconded the resolution.

Sir HENRY concluded by again thanking the assembly for the vote they had passed, and repeated that he hoped the Institution might continue to be as signally beneficial to their suffering fellow-creatures as it had been for so many years past.

THE Odonto-chirurgical Society's L.D.S. Dinner was held on March the 12th, at the Balmoral Hotel, Edinburgh. Mr. J. R. Brownlie, of Glasgow, occupied the chair, and Mr. James Mackintosh, of Edinburgh, acted as croupier. After the usual preliminary toasts the CHAIRMAN proposed the Dental Diploma. He said that the subject presented an *embarras de richesses* to the speaker ; to the dental diploma he traced every desirable change that had taken place in the profession since its inauguration, and he did not doubt that a cordial assent would be given by those present to all he might say in its honour. More or less sacrifice had been made to obtain it, and it could not now be gainsaid that the dental diploma has been throughout a complete success. From a small beginning it had developed greatly, and the extent to which it had developed is the highest testimony to the wisdom and forethought of those who gave to the profession the *status* conveyed by the L.D.S. Hitherto it had carried all before it, and

if in any sense its work was incomplete, was it not that time was wanted for the accomplishment of all that could fairly be expected from it ?

Through the years when its powers were permissive, it may be said to have been serving its time, going through the usual apprenticeship, and entering upon its connection with the profession with all due form, and giving promise even then of the excellent work to be done when its time was out—the time when parliament should recognise its worth and provide it with that place of authority amongst us, which later events have shewn it to be so competent to fill.

As the first step, and indeed the main proof of the need of those legislative changes which have been effected in our profession, the influence of the dental diploma is quite patent. We can hail with satisfaction all that has been done in this direction, and we can also turn with as much satisfaction to other indications of its power for good. Look at the way in which it has enhanced the value of those services which as a profession we exist to render to the public. Invention has no doubt done much, but to a great extent, the manipulative dexterity, the artistic skill, now so liberally cultivated in the schools, may fairly be said here to be the mother of invention.

What is the state of the case in this direction ? Why the dental diploma is simply effecting a revolution. It is sending out young men to begin their life's work as fairly equipped as the most industrious could formerly attain to by such means of study as were open to him, and twenty years of practice added to that. The public, formerly so shy of young, and as then might truly be said, inexperienced men, is daily recognising this fact, and young men have not now to exist somehow, as in days gone by, till the eye grew dim and the hand unsteady ere they could get credit for fitness to practice our art.

Upon the *personnel* of the profession the influence of the dental diploma is surely beginning to appear. There are those who, coming later, will doubtless see more of this than we do now, but not only are the ranks being recruited from a better class socially, but the education it ensures must have a most beneficial influence in the cultivation of our art as one of the liberal professions. A good dinner predisposes no doubt to look on the brighter side of one's subject, and certainly it is pleasanter to recount its success. There are, no doubt, those who are not

altogether pleased with the work of the dental diploma. To such I think it can fairly be said that there is every reason to hope in its future. Its aim is to cultivate the better rather than to repress the worse, and as its work is by no means complete, let us pledge ourselves to aid and loyally assist in its mission.

Dr. SYMINGTON proposed the Odonto-chirurgical and sister societies, and Mr. MACLEOD (president of the Odonto-chirurgical Society) replied.

Dr. WILLIAMSON (Aberdeen) in proposing the licensing bodies, urged that the value of the diploma would suffer if the acquisition of it were allowed to become too easy. He thought it high time that a more practical element should be introduced, the profession was essentially a practical one, and success in it greatly depended on manipulative dexterity, such skill should therefore have a due weight in the examination where theory at present was alone required.

Dr. P. H. McLAREN replied.

Mr. AMOORE in proposing the visitors from a distance, alluded to the gratification with which the Edinburgh members welcomed the ample contingent of friends from the west. The evening was very successful, and the musical programme was admirably sustained by Messrs. Rees Price, Mackintosh, Biggs, Durward and Dr. Williamson.

ON the 24th of last month the foundation stone of a new Examination Hall, to be used by the Colleges of Surgeons and Physicians for their joint examinations, was laid by Her Majesty the Queen, an honour to the medical profession which will be the more appreciated when it is remembered how seldom for many years past Her Majesty has taken part in any public ceremonial.

The hall is to be situated upon the Thames Embankment at the corner of Savoy Street, and will be a brick building somewhat freely embellished with stone facings; the elevation as portrayed upon the gorgeous card of invitation is a little disappointing, as it is rather in the similitude of a hospital, but we believe that the little picture does not do full justice to the architect's design; it is probable that all examinations will be held within its precincts, and so it is likely that some of the future candidates for the dental licentiatehip will make acquaintance with its interior.

The ceremonial was an imposing one. The Queen came in semi-state, accompanied by an escort of the Life Guards, and was supported in the marquee by a dazzling group in varied uniform. The Prince of Wales, who arrived early, was received with much enthusiasm ; the Marchioness of Lorne, the Duke of Connaught, Prince Christian, and the Princess Henry of Battenburg, were present, as well as the Lord Chamberlain, and a host of glittering aides-de-camp and other court officials. Thanks to the excellent arrangements of Sir Henry Pitman and Mr. Trimmer, everything passed off without the smallest hitch, and the crowd of medical men got into and out of their allotted places without delay or crowding, the excellent plan of giving to every individual a numbered spot to stand upon having been adopted. Morning or academic dress having been written upon the cards, a considerable number of familiar figures presented themselves in very unfamiliar garb ; Sir James Paget in the red robes of an LL.D. and a sort of beef-eater hat ; Sir Joseph Lister in a LL.D. gown but ordinary college cap, and Sir William Gull in a uniform which he wore as if he wore it every day ; while others, whom it would be invidious to mention, did not look devoid of that self-consciousness which may be observed in the male attendants at a fancy dress ball. The Lord Chancellor and Sir John Lubbock appeared in plain clothes, but there was a sufficient sprinkling of red doctors' gowns, hoods, &c., to brighten the black coated assemblage, although a good many who might have worn them had shirked the passage through the London streets in silks and satins.

Our readers will be gratified to hear that a seat amongst the forward rows was allotted to the President of the Odontological Society, and several members of our branch of the profession were also invited. We noticed Sir Edwin Saunders, Mr. Ibbetson, the dental examiners, Mr. Moon, Mr. Winterbottom, and Mr. Charles Tomes, and, doubtless, there were others not within our range of vision.

Manchester Odontological Society.

At a meeting of the above Society held at the Grand Hotel, February 9th, Mr. John W. Dunkerley (Fellow of the Royal Microscopical Society) read a paper on "Odontomes."

After describing the formation of the dental germ (as he regarded

the odontome as an abnormal development from that structure), he proceeded to discuss the different classifications of odontomes, and considered that of Salter the best.

He then went more deeply into the structure and composition of that form of odontome known as a "warty tooth," a good specimen of which had been handed to him by Mr. George W. Smith, who had extracted it from the mouth of a young lady, aged twelve years. The odontome occupied the space just behind the sixth-year old molar, and was removed without any difficulty, no hæmorrhage following. Mr. Dunkerley was of opinion that the odontome represented a supernumerary tooth, for since its extraction, five years ago, the second molar had made its appearance, and he thought it just possible that the new tooth was the *dens sapientiæ*.

In microscopical sections the tissues of the odontome presented a confused mass of enamel, dentine, globular dentine, interglobular spaces in abundance, vascular canals, and cementum; the latter being very rich in lacunæ and canaliculi. Two large pulp cavities were found, also a large portion of the pulp, which showed the same fluty nature as the hard mass. The paper was illustrated by thirty-three beautiful drawings on glass for the oxyhydrogen lantern, executed by Mr. Dunkerley, twenty-five of which were from his microscopical sections taken from the odontome. These sections were also shown under microscopes, lent by Dr. Shaw, Mr. Dunkerley, and Mr. Ward.

Three of the lantern slides showed the growth and formation of the enamel and dentine germs (after Tomes), and five other slides represented the different types of odontomes, copied from drawings in Salter.

After a cordial vote of thanks had been offered to Mr. Dunkerley for his paper, he explained his mode of procedure, and the great amount of time it had taken to prepare for the evening's work. After this those present had an opportunity of examining the specimens under the microscopes.

REVIEWS AND NOTICES OF BOOKS.

A MANUAL OF SURGERY in three volumes, by FREDERICK TREVES, F.R.C.S., pp. 650. Published by Cassell and Co., Ludgate Hill, E.C.

THIS valuable manual possesses a feature which cannot be overpraised in a work on surgery, namely that it is not all written by one man. Special questions have been discussed by those who have devoted special attention to them, and so completely has Mr. Treves recognised the principle, that the rapid advances of modern surgery have rendered it impossible for any single author to discuss it in all its diverse details with equal authority, that he has not been content with inviting the co-operation of distinguished ophthalmic, aural and dental surgeons to deal with their very recognised specialities, but has further sought in many ~~the~~ departments the aid of those who have gained distinction ~~in their~~ successes and achievements in some particular field of ~~surgery~~. Thus Mr. Jonathan Hutchinson writes on syphilis, Mr. Butlin on tumours, Sir William MacCormac on hernia, Mr. Malcolm Morris on the skin, Mr. Pick on joints, and many more ~~equally~~ recognised authorities (in all thirty-three), combine to produce a manual that is, in every department, well up to the times, and more representative of modern surgery and pathology than the work of one writer, however gifted, could ever hope to be. We take it that this method of producing a manual of surgery, is a sign of the times and a very welcome sign it is. The pompous pretence to omniscience which has so long rendered the opponents of specialism ridiculous is dying a natural death. There are still, no doubt, some individuals surviving who think that because they possess the membership or fellowship of the College of Surgeons, they can have nothing to learn from Mr. Marcus Gunn about the eye, or from Mr. Field about the ear, and that Mr. Sewill must not presume to instruct them about the teeth, and such will continue during their period of activity to supply the melancholy fruits of their inexperience to Moorfields and Leicester Square. Such prejudice (to call it by no harder name) is happily on the decrease, and the more modest and wiser majority, will, we are sure, rejoice in the varied collection of skill and experience to be found in Mr. Treves' manual.

One of the articles claims our special attention, namely, that of Mr. Henry Sewill upon dental surgery.

Mr. Sewill's pen has been so often employed in contributing to our special literature that most of our readers are pretty familiar with his views. The present article occupies less than twenty pages, and therefore of necessity touches upon very few points and those very briefly. Mr. Sewill has judiciously selected for discussion those dental maladies and remedies, which are specially liable on emergency to come under the attention of a general practitioner. After lightly touching upon the leading features of caries, inflammation of the pulp, periostitis, and alveolar abscess, and a few common malformations of the teeth, he devotes some seven or eight pages to advice about extraction and consequent hæmorrhage, ending with a page about odontomes. The advice is all good and thorough, we could however have wished Mr. Sewill had protested with all his might and main against that most mischievous error so widespread among general practitioners, namely, that it is advisable in cases of abscess resulting from dental causes to wait until the subsidence of the inflammation before operating. In addressing a general audience Mr. Sewill had an opportunity of striking a blow at this baneful error, and considering how difficult it is to eradicate, no opportunity should be lost. The evils that result continually from this one source are incalculable, and while medical men persist in telling their patients to wait for the subsidence of the inflammation, so long will the extension and burrowing of alveolar abscesses with all their attendant train of evils, continue to be the *sequelæ* of very simple dental maladies which are in themselves perfectly amenable to treatment. If we except this omission we can heartily approve Mr. Sewill's choice of subjects, endorse his advice and commend the plain and understandable manner in which it is presented to the student.

Many other articles in the manual will interest and instruct our readers, space forbids us to discuss them in detail, but we may specially recommend as full of valuable matter to those practising dental surgery, the chapters on the mouth by Mr. Walter Whitehead, the Jaws by Mr. Pepper, Anæsthesia by Mr. Mills, and Syphilis by Mr. Jonathan Hutchinson.

The whole manual, for the reasons above stated, is to be highly commended as a thoroughly reliable standard book of reference on Surgery, and those of our readers whose studies extend beyond the express limits of their daily work will do well to install it on their bookshelves.

MINOR NOTICES AND CRITICAL ABSTRACTS.

On Certain Fermentative Processes in the Alimentary Canal, and the Micro-organisms by which they are produced.

By PROFESSOR MILLER, Berlin.

THE *Independent Practitioner* for February and March contains an interesting paper by Dr. Miller on the above subject, which we should much like to reprint *in extenso* did space allow, but we content ourselves by giving a short outline, cordially commending the original to those interested in the subject.

By a large series of most painstaking experiments in the cultivation of micro-organisms taken from the mouth and other portions of the alimentary tract, and by subjecting these cultures to various tests Dr. Miller has arrived at the following conclusions, which we think he may justly claim to have established:—

"(1) A large number of the fungi of the alimentary canal are not restricted to one portion of it alone, but may develop either in the mouth, stomach, or intestines.

"(2) In by far the greater number of cases the gastric juice will not prevent the entrance of fungi into the intestines. All fungi which I have examined may pass the stomach without losing the power of development, provided they are swallowed at the beginning of a meal. If, on the other hand, digestion is at its most active stage (two to three hours after the beginning of the meal), then those fungi more sensitive to the action of acids will be destroyed before they reach the intestines.

"(3) Lactic acid fermentation may continue in the stomach until the percentage of H.cl. reaches 1.6 to 1000. If too little H.cl. is secreted, or too much food taken at once, the fermentation may become permanent. Diseases of the stomach, general disorders of health, fever, &c., accelerates the fermentation by interfering with the normal secretion of gastric juice.

"(4) Fermentation in the stomach may be more readily arrested with salicylic than with hydrochloric acid.

"(5) A large number of the fungi of the alimentary canal cause lactic acid fermentation in solutions of carbo-hydrates, whereby the frequent appearance of lactic acid may be accounted for. Other ferment acids, acetic, baldric, &c., I have observed less frequently and in smaller quantities.

"(6) Five of the species examined caused fermentation with formation of large quantities of gas, chiefly CO₂ H.

"(7) It is impossible to make an exact division between those fungi which produce an acid and those which produce an alkaline reaction in a given solution, also between ferment and putrefactive fungi.

"(8) The majority of the fungi which I have examined manifested a peptonizing, very few a diastatic, action."

Dr. Miller's paper will suggest many points of practical value to the general practitioner, but for ourselves it has several of especial significance, though they may be said rather to emphasize old than teach new plans of treatment.

The fact that he has found eleven species of fungi in one mouth at the same time, not including the well-known *leptothrix buccalis*, *spirochoete dentium*, and *vibrio buccalis*, and that many of these cause lactic acid fermentation (not to mention putrefactive changes) in the oral cavity and elsewhere, which we all know to be so provocative of caries, should suggest antiseptic mouth washes and dentifrice, and the most careful exclusion of saliva whilst treating root canals.

Dr. Miller finds that five species of micro-organism caused the evolution of large quantities of gas during the fermentive process, with the rending and upheaval of the contents of the tube, and even fracture of the glass itself, and justly points out the bearing such action would have on the causation of dental pericementitis and abscess where sufficient aseptic precautions have not been taken before filling dead teeth.

Further, the effect upon the general health of our patients caused by the discharge of hosts of these fermentative and putrefactive fungi through rhizodontrophy perforations into the oral cavity and elementary canal, is also food for serious reflection.

We shall look forward with interest to the conclusion of Dr. Miller's paper, which is promised in the next number of the *Independent Practitioner*.

The Composition of the Teeth, by M. Galippe.

IN Chapter IV. M. Galippe discusses the influence of sex on the co-efficient of resistance and the frequency of dental caries. The difficulties of this particular research were considerable. The female dentitions examined were often very incomplete; if complete dentitions only were chosen, the general result would plainly be deduced from exceptional cases. On the whole, however, facts seemed to warrant the conclusion that, as a general rule, the density of the teeth of women is inferior to that of men. One fact was certain, however, that childbirth decreases the density of teeth, impoverishes them in inorganic material and predisposes them to caries. Magitot (*loc. cit.*) has shown that sex does predispose to caries. M. Galippe has frequently verified this fact at the *Hôpital clinique d'accouchement*, and satisfied himself that this aptitude for caries shows itself as early as puberty and becomes more marked with each childbirth. General pathology

shows that in many respects women are more liable than men to certain diatheses, for example, that which results in biliary calculus. This diathesis depending on the greater acidity of the feminine secretions has been shown by Bouchard, to display itself especially at puberty, to re-assert itself at each parturition and to decline at the menopause.

M. Landouzy referred mitral stenosis, a peculiarly feminine affection, to an acid diathesis of a sexual nature. True mitral stenosis in its etiology, in its sexual features, in its moment of appearance, in its evolution, all so dependent upon the genital functions, differs completely from all other maladies of the heart and at the same time, has much in common with the pathology of biliary calculus. In brief it is a proved fact, that the female secretions are more acid than those of the male. In view of these facts, do we find that the saliva of woman is more acid than that of man? In 1879-80, M. Galippe undertook a series of observations on the re-action of the saliva in women in labour, and in nurses, with this result, that the saliva in such women is mostly acid. Since then further observations have confirmed the fact. When there is any alkalinity in women, it is so slight as not to neutralize the normal formation of acid. The elimination of carbonic acid is more considerable in man than in woman, especially at puberty when it is nearly double. This has been shown to be the case also with the larger mammals. Thus then it may be shown that, in the female, uterine disturbances provoke an acidity of saliva. The menstrual function has been known to produce this result and at the same time, the heart's beat is weaker, the respiration quicker and the urine less in quantity. It is not only in the frequent acidity of the saliva, that the female displays a special predisposition to caries, her teeth have a lower density, their co-efficient of resistance is inferior. During and after child-bearing, this liability to caries asserts itself. These considerations have led M. Galippe to lay particular stress upon a special diet during the child-bearing period, the object of which should be to supply the deficient elements upon which so severe a demand is being made.

In Chapter V. M. Galippe inquires into the distribution of caries on the right side as compared with that on the left. Having already established the fact that the co-efficient of resistance of the teeth of the right side is greater, an *a priori* conclusion suggests itself that the left hand teeth should decay more frequently. M. Magitot's figures show a slight excess of decay in favour of the left side (5,209 as against 5,791 out of 10,003). From these figures must be eliminated those cases affecting both sides equally. M. Galippe proceeds to compare his figures with those of M. Magitot, taking the teeth severally. The six-year old molars present a special difficulty to the analyst, because they are so fre-

quently absent owing to caries. It is usually in the lower jaw that they are missing. The mean density of the upper six-year old molars is less than those of the lower, and that on the right side in excess of that on the left. The extreme prevalence of decay in the six-year old molars may be due to many causes. The long intra follicular evolution, and the fact that it is during the evolution of this tooth that the child undergoes the most serious crises of nutrition, may in some measure account for it.

The density of the second permanent molars is slightly in favour of the upper jaw, but the left side has for once the advantage over the right. M. Galippe does not attach much importance to this exception. With regard to the first bicuspid, whereas the density is very slightly in favour of the upper jaw, the caries is more frequent in the proportion of nearly three to one, while the teeth of the left side suffer more than those of the right in the proportion of nearly eight to five, the density being much greater on the right side.

Abstracts of the Erasmus Wilson Lectures on Evolution in Pathology.

By J. BLAND SUTTON, F.R.C.S.

ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL, AND LECTURER ON
COMPARATIVE ANATOMY.

(Continued from page 180.)

IN the first portion of this lecture, I emphasised the fact that any marked degree of hypertrophy in one organ nearly always leads to dwarfing of the correlated organ or set of organs; hence, in the example considered, the female portions of the hermaphroditic organs remained dwarfed, or *in statu quo*. This peculiarity would, in the natural course of events, be transmitted to the offspring, until at last the differentiation attains such a high degree that, unless hypertrophy of one set of organs occur in each individual, propagation is impeded. Evidence on this point is afforded by the ontogeny of any mammal. Whilst the two sets of reproductive organs, male and female, up to a certain point maintain the same degree of growth, it is impossible to determine the sex of the embryo. As soon as one set begins to enlarge at a greater rate than the other, the sex becomes pronounced. The remaining organs may eventually disappear, or exist in such a rudimentary condition as to be discerned only by the most diligent search.

In the invertebrate form, *Myzostomum*, which occurs as a parasite on the arms of feather stars, the majority are hermaphrodite. It has recently been discovered by Dr. von Graaf, whilst working

over the *myzostomida* collected by the *Challenger*, that, in certain species which occur in pairs in single cysts, one would find the male organs only functional, the other the female; and it is possible to trace every stage, from typical hermaphrodites, up to forms where the individual may be classed as a male or a female. Somewhat analogous conditions were detected by Darwin in the case of the barnacles, but the conditions in these animals are even more remarkable than in the *myzostomida*, for the males in this case are minute animals attached to the female, and often difficult of detection. In these complementary males, the entire organism is modified for sexual function; for, as Darwin describes it, there is no mouth, no stomach, no thorax, no abdomen, no appendages, no limbs of any kind, yet all these parts are represented in the female. It seems to be simply a bag of spermatozoa, furnished with a few muscles, an eye, the pupal antennæ, and a probosciformed penis, which, when uncoiled, is equal to eight or nine times the length of the animal. Darwin's observations have recently been confirmed by Professor Hoek's observations on the cirripeds collected by the *Challenger*.

Among mammals, the most striking examples of the peculiar value of hypertrophy must be mentioned, the curious malformed generative organs which occur in the cattle known as "free martins." Hunter carefully investigated the condition of the reproductive organs in these cases; and the valuable dissections he made, now in the Hunterian Museum, are striking monuments to his inquisitiveness in this matter. Careful comparison of the detailed descriptions of the dissections of these malformations, and similar cases of sheep and goats which have come under my observation, show most conclusively that in these cases we have to deal not with any one malformation common to all examples of free martins, but rather with instance in which both sets of organs have attempted to attain a functional condition, with the result that both have failed to reach it. In some of these cases, the Wolffian ducts have advanced many stages towards making a fairly complete set of efferent ducts for the testicles, and the calf approaches somewhat to a bull-calf. In other instances, the Mullerian ducts have made great progress, and a diminutive uterus can be made out, and in this case the calf most resembles a cow-calf. Between these two extremes, there is every gradation and variety. Similar cases occur in fishes, reptiles, amphibians, birds, &c. I have seen many cases, and numberless instances have been recorded out of curiosity.

These cases show most conclusively how impossible it is for both sets of reproductive organs to attain a functional condition in the same individual. Hypertrophy of one set must arise and establish pre-eminence over the other.

The facts on which the argument rests, that hypertrophy is one of the causes of division of sexes, may be summarised as follows:

1. In the lowest forms of animal life, hermaphroditism is the prevailing condition.

2. Cross-fertilisation in hemaphrodites is the rule, and may, as in some of the *myzotomida*, lead to a division into sexes within the limits of a single group.

3. Sporadic cases of adult hermaphroditism are far more common in the lowest forms of life.

4. If in mammals both sets of organs grow concurrently, the individual is sterile.

5. Both sets of organs grow equally to a definite period in embryonic life.

6. Reproduction of vertebrata, so far as is known, is impossible, unless hypertrophy of one set of organs occur.

Among other remarkable examples of the wonderful correlation which exists between hypertrophy and atrophy, must be mentioned the disappearance of gills in all forms above the ichthyopsida (fishes and amphibia). Balfour has pointed out that the allantois can be regarded in no other light than that of an enormously hypertrophied urinary bladder, which, having become a vascular sac, assumed the functions of respiration in the embryo. Hypertrophy of one organ, or set of organs, leads invariably to atrophy of some other organ. Before the work of embryonic respiration was performed by the allantois, many and various contrivances existed for the performance of this important function; for example, by means of external gills, the tail, and vascular adhesions of the yolk-sac; but, when once a functional allantois appears on the scene, all these methods are rendered obsolete, and gills for ever disappear.

It is to be hoped that the examples of what should be considered as hypertrophy, as compared with simple overgrowth, have been sufficiently convincing to impress upon my audience the importance of the distinction. Viewed in this light, hypertrophy shows itself to be a process of extreme beauty, utility, and interest, especially so when we reflect that the same process which enables one kidney to recompense the organism for the loss of its fellow, is only an instance of the method by which the tibia has outgrown the fibula. The disappearance of gills in all forms of vertebrates above ichthyopsida (fishes and batrachians) has been brought about by the allantois. The division of reproductive labour and the institution of sexes, and many other equally important results, are the effects of the indisputable correlation which exists between hypertrophy and atrophy.

Let us now proceed to consider certain examples of simple overgrowths which appear to have been transmitted so as at length to become race-characters. In no structure is this so admirably illustrated or so easily studied, as in the teeth of mammals. I have already referred to those instances of teeth which grow from per-

sistent pulp, and, from lack of antagonism, occasionally exceed their normal dimensions many times, describe circles, re-enter their own pulp-chamber, or even penetrate the skull of their owner, and bring about death.

One of the most remarkable forms of dentition among mammals is that of the Babirusa. The extraordinary canines of this animal have afforded plenty of scope to imaginative minds to account for their strange mode of growth. These teeth grow from persistent pulps; and it may easily be conceived that, from some cause or other, the upper and lower canines failed to antagonise each other, and in consequence became enormously elongated. This abnormality frequently recurring, the peculiarity became transmitted to the offspring, eventually becoming perpetuated as a common feature in the males of this particular species. This isolated case does not carry much weight, but it must be remembered that, in all members of the pig-family—the common boar, the peccary, the wart-hogs, the hippopotamus, as well as the babirusa—the canines have a great tendency to overgrowth, and to describe circles. Thus, in the wild boar, the upper canine is slightly curved; in the wart-hog, its curve is very extensive, and clears for some distance the upper lip; whilst, in the babirusa, the curve is so exaggerated as to pierce the upper lip. Hence the careful consideration of these facts forces me to the conclusion that these peculiar canines were brought about in the first instance as an example of overgrowth due to loss of antagonism, and the defect has been transmitted to the offspring. The remarkable teeth of mesoplodon, the narwhal, and other of the cetacea, are probably examples of the same process.

Lastly, when considering hypertrophy, it was shown that this process led to dwarfing of other organs associated with the enlarging organ, in that it led to diversion of the nutrient fluid. This is well shown in the teeth, for in all cases the teeth which are immediately adjacent to these overgrown examples are, as a rule, the smallest functional teeth possessed by the animal; and in very many cases they fall out early, and in some instances are suppressed whilst yet embryonic, and never appear above the gums.—*British Medical Journal*.

A Case of Alveolar Abscess.

At a recent meeting of the Medical Society of London Mr PEARCE GOULD read notes of a case of alveolar abscess causing death from thrombosis of the cavernous sinus. A widow, aged fifty-seven, was admitted into the Temperance Hospital with the mouth and teeth in a foul state; a sloughy opening was seen in the centre of the right cheek. An incision was made into the tissues over the jaw from the outside, where fluctuation was de-

tected over the lower part of the masseter ; the swelling of the face subsided a little after this, but the patient's general condition was very unsatisfactory. Six molar teeth were extracted on the right side on February 22nd. A probe passed into the external wound detected bare bone ; the trismus lessened, but there still remained continued fever and the mouth was very foul-smelling. Some œdema of the right temple had also appeared. Four days after the removal of the teeth, an abscess above the external angular process of the orbit and another in the posterior triangle of the neck were observed, but the external jugular was not thrombosed. The general state did not improve ; the pulse was 126, small, and weak ; the temperature 103.8° ; respiration stertorous, and crops of herpes about the lips. The patient was very drowsy ; there was great œdema of the orbit and chemosis, with some proptosis of the right eye and less of the left ; the eyeball could be moved a little from side to side. The patient had some rigors on March 1st. The general asthenia increased, and on March 2nd the conjunctivæ were yellow and motions colourless. Death occurred in a state of coma. At the necropsy several globular abscesses were found in the lungs with very dense walls, and no signs of adjacent inflammation. The liver was fatty and enlarged ; the kidneys healthy. There was necrosis of the outer part of the right side of the lower jaw ; the temporal muscle was discoloured, but not actually purulent. Some lymph was detected along the basilar process of the occipital bone and sella turcica. The blood was more fluid than usual. The right cavernous sinus was greatly distended, and contained greyish-yellow broken-down pus and clots ; the right ophthalmic vein was similarly affected, and the circular sinus with the superior petrosal on the right side. The inferior petrosal and lateral sinuses were healthy. The left cavernous sinus contained a clot, of which the inner part was yellow. The case appeared to be an example of a rare condition. The thrombosis had probably spread through the pterygoid veins on the right side to the cavernous sinus, and thence to the left side by the circular sinus. Sir William Bowman's case was mentioned in which there was pulsation in the orbit, which led to ligation of the common carotid on the idea of aneurism.

Mr. B. CARTER referred to two cases of orbital cellulitis in which there was proptosis ; both recovered.

Dr. SIDNEY COUPLAND had met with thrombosis of the cavernous sinus after death, when it had never been expected during life. In Mr. Gould's case we had a parallel to thrombosis of the lateral sinus occurring after ear disease. He related a case of basic meningitis in which there was total ophthalmoplegia and loss of sensation in the ocular tissues ; at the necropsy there was ancient plugging of both cavernous sinuses. During life there were no signs of papillitis ; there was no "choked disc," showing that V.

Graefe's explanation was incorrect, as had now been generally accepted.

Mr. DAVIES-COLLEY related three cases of thrombosis of the cavernous sinus occurring in cases of malignant facial carbuncle.

Mr. ALLINGHAM, jun., spoke of the case of a girl, aged twenty-one, who died with thrombosis of the facial vein and cavernous thrombosis; there was extreme chlorosis.—*Medical Press*.

A Case of Necrosis.

At the Clinical Society of London last month, Mr. HUTCHINSON read a case of "Necrosis of the lower jaw from the medicinal use of Phosphorus." The patient was a lady, æt. sixty-five, who was seen by Mr. Hutchinson in November last, when the whole lower half of the face was enlarged, and several sinuses opened externally; bare discoloured bone was exposed in the mouth along the whole length of the alveolus; discharge profuse and fœtid in the extreme. In explanation of the origin of the necrosis, it was elicited from the patient that she had "been taking phosphorus for the last two years," and had "quite renovated her brain" thereby, the truth being that, save for a few intervals, she had during the time named been taking three Kirkby's pills, *per diem*, each containing 1-33rd grain of phosphorus. The condition of the patient being much reduced, operation was deferred pending improvement in her general health, until the present month, when, after consultation with Sir J. Paget, Mr. Hutchinson removed about four inches of dead bone, without having to resort to cutting instruments for its separation, although he feared at first this would be necessary. The patient made an excellent recovery. Mr. Hutchinson remarked that Kirkby's phosphorus pills were in very extensive use, but that this was the only case in which, to his knowledge, jaw disease could be traced to their employment. The patient had carious teeth at the time, and inflammation of the jaw had begun in connection with one of them, and probably about six or nine months after the taking of the pills commenced.

Mr. BRYANT instanced two cases in proof of the fact that acute inflammation and necrosis of both upper and lower jaw may occur independently of phosphorus poisoning. Both patients were well-to-do healthy women; one died from pneumonia, and the other, being five months pregnant when seen, went through her pregnancy, was safely delivered at term, and then had a large piece of necrosed jaw successfully removed. Mr. Bryant remarked on the rarity of such a cause as that adduced by Mr. Hutchinson, and in reply to the latter gentleman, said that special inquiries had been made as to the possibility of poisoning by phosphorus through its use medicinally without result in both the cases cited.

Dr. BRISTOWE believed such a source of necrosis of the jaw quite possible, though he had never met with an instance.

Dr. COUPLAND asked if any degree albuminuria had been observed in Mr. Hutchinson's case.

Mr. HUTCHINSON replied to this inquiry in the negative.—*Medical Press.*

Action of Sunlight on Micro-Organisms.

At the meeting of the Royal Society, on January 14th, a paper on the "Action of Sunlight on Micro-organisms" was read by Dr. Downes, medical officer of health for the Chelmsford combined districts. In previous papers to the Society in 1877, 1878, and 1879, the author, conjointly with Mr. T. Blunt, showed that sunlight was fatal to saprophytes by a process of hyperoxidation thereby induced. In this process the more refrangible rays were the most active. In the course of the research two other facts of importance also came out. It was found that in the presence of free oxygen the molecule of oxalic acid might be entirely resolved into water and carbonic acid by the action of light, more especially of the more refrangible rays, $C_2O_4H_2 + O = 2 CO_2 + H_2O$. Further, it was discovered that the alterative ferment of cane sugar (a representative of the singular and important bodies, the diastases, which play so important a part in animal and vegetable economy) was oxidised by sunlight. These investigations have not as yet been repeated as a whole, but each point put forward in them has now been confirmed by independent observers.

After a reference to the results obtained by Professor Tyndall in 1881, and by others, the author summarises the recent work of Professor E. Duclaux, who finds that micrococci are apparently far more sensitive to sunlight than the spore-forming bacilli. Dr. Downes and Mr. Blunt, in their original memoirs, had noted the variation of resistance of different organisms—*e.g.*, of the hypho and saccharo-mycetes—as compared with the ordinary putrefactive bacteria; and the former now describes a specially resistant form of bacterium, resembling, but not identical with, the asco-bacteria of Von Teighem. Duclaux coincides with Downes and Blunt in regarding the process as an oxidation, and confirms their results as to the destruction of diastase by sunlight.

In refuting the conclusion of Dr. Jamieson, an Australian observer, that the injurious effect of sunlight on micro-organisms is simply a result of heat, Dr. Downes gives an account of recent experiments of his own, which indicate that a similar action, though of course in less degree, is exercised by diffused light. He concludes with a reference to the well-known observations of Pringsheim on the destruction of vegetable protoplasm by light,

and claims them as evidence of the truth of his former generalisation that the hyperoxidation of protoplasm by light is a general law, from the action of which living organisms are shielded by a variety of protective developments of cell wall, aggregation of tissue or colouring matter, and in other ways.—*Lancet*.

The "Jaw-Jerk."

UNDER this name, compounded of familiar terms, Dr. de Watteville describes, in the current number of *Brain*, a phenomenon analogous to the "knee-jerk" or patellar tendon reflex. As the extensor muscle of the leg when suddenly stretched contracts by a sharp tap on the tendon, so the masseter and other muscles of mastication contract when similarly excited by an extensile impulse. The latter is best imparted by applying a flat object, such as the handle of an ivory paper-knife, on the teeth on either side of the jaw, and using an ordinary percussion hammer to strike the required blow. The jaw should not be fixed by any voluntary muscular contraction, and the blow should be struck as near the teeth as possible. The short period of latency of the jaw-jerk, .02 of a second, is held to be another argument against the reflex nature of the tendon reaction. The jaw-jerk is exaggerated in many cases of disease, and may even pass into a regular clonus. The latter phenomenon was observed five years ago by Dr. Beevor in a case of amyotrophic lateral sclerosis, published in the current number of *Brain*. Dr. de Watteville mentions a case of hysterical spasms in which the jaw-clonus was present. Further experience alone can show what variations in the jaw-jerk are compatible with health, and determine what diagnostic value its exaggeration and abolition may possess.—*Lancet*.

OBITUARY NOTICE.

Dr. Austin Flint.

SINCE our last issue the most distinguished representative of the science and art of medicine, in America, has passed away. Dr. Austin Flint has justly earned a world-wide fame. His name figured as President-elect for the forthcoming International Congress, and for many years the world of science has been familiar with his work. The cloud that must settle over the gathering of 1887, owing to the loss of their brilliant presiding genius, will be difficult to dispel. But Dr. Flint's greatness constituted him the property not of America only, but of all the world; he was to have addressed the British Medical Association next autumn; his writings have smoothed the path of study to many a far away English student, and will do so for many generations yet to come and it is not too much to say that Europe has lost one of her

most gifted sons, and that all the world, wherever there is sickness to heal or students to teach, will be overcast with a sense of mourning for the brilliant genius that has suddenly been called away from our midst.

NEW INVENTIONS.

A New Teeth Brush.

We have received a specimen of Mr. Harper's ingenious contrivance, and append drawings which explain its nature very well. The principal points in which it appears to us to be both useful and

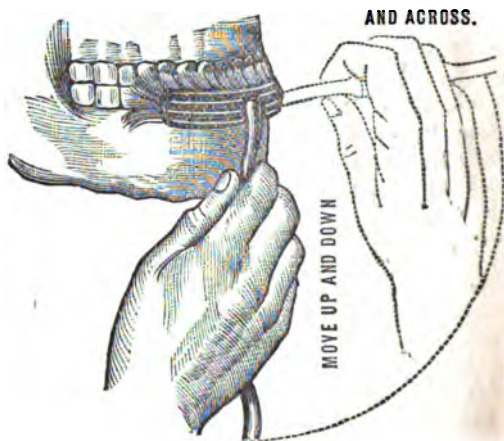


DIAGRAM I.

original, are the small convex end which does most perfectly clean the inside of the teeth, and the joint by which the concave end can be adjusted to any angle. We have no hesitation in saying that it is a very good brush indeed, and we do not think the price (half-a-crown) at all exorbitant.

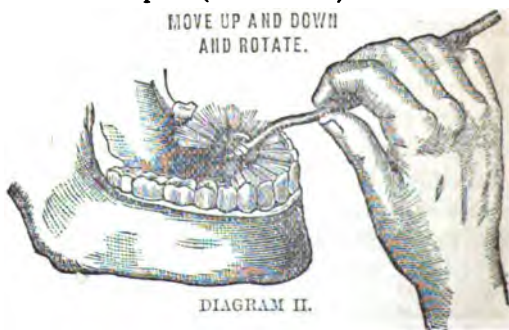


DIAGRAM II.

Nevertheless, many people would look at half-a-crown twice before they spent it on a tooth brush, and we would therefore make two suggestions to the inventor. First, that if the handle were made of bone or horn it would be less liable to break—the fragile nature of the vulcanite constituting a serious drawback to so expensive a brush—and, secondly, that the brush ends might be so contrived that a new one could be adjusted when the old one was worn out or broken. We think that some modification of this sort would insure the popularity of this excessively ingenious contrivance.

APPOINTMENTS.

C. J. BOYD-WALLIS, L.D.S.Eng., has been appointed Dental Surgeon to the West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy.

P. GORRIE, L.D.S., Glasgow, has been appointed Honorary Dental Surgeon to the Institution for the Blind, Dundee.

ANNOTATIONS.

A VERY pleasant feature in the recent Odonto-Chirurgical dinner was the presence of a strong contingent from the west of Scotland, testifying to the *entente cordiale* existing between the two branches, which, while possessing distinct societies, have the common weal of the profession at heart, and we hope that the forthcoming meeting at Glasgow in June next, may be one of the many ripening influences which shall in the end blend them together into one body and endow them with the strength which is the outcome of unity.

At the trial of Euphrasie Mercier for the murder of her mistress, Elodie Ménéret, at Paris, a point of evidence has arisen which will be of special interest to our readers. The prisoner, with the aid of forged documents, obtained possession of her mistress' property, stating that the latter had retired to a Belgian convent. Subsequent suspicion and investigation led to the exhumation of human *débris* in the garden, the remains were so far destroyed by quick-lime as to be unrecognisable, but an artificial tooth resembling that worn by Madame Ménéret was found on the corpse

Madame Ménétret's dentist can of course definitely establish the identity of the case and consequently of the remains.

THE Students' Society of the Dental Hospital of London gave a Smoking Concert on Monday 22nd, at Ashley's Hotel, Covent Garden. Mr. George Parkinson occupied the chair and was supported by the dean and several other members of the staff. The first item on the programme was a pianoforte solo by Mr. McAdams. Following this came songs in rapid succession. Messrs. Fairbank, Lloyd Williams, Ackland, Wakefield, and Gilbeart, specially distinguishing themselves. In the second division the chairman found himself compelled to request that on the score of time encores should not be complied with. An elocutionary display by Mr. Joyce, a stump oration by Mr. Cates, and a comic song by Mr. Lunnion, formed specially attractive features. The very successful evening terminated with a vote of thanks to the chairman, proposed by Mr. Wynne Rouw, and carried by acclamation.

THE formulæ quoted in the letter from America, enclosed to us by Mr. Charters White (see page 254), are without exception the most extraordinary that have ever been put on record. A gentleman with ten upper incisors and eight lower, who in his own immediate family had such records as a brother with eight upper and eight lower incisors, a sister with six upper and six lower, and a grandmother with ten upper and and eight lower, is truly a phenomenon worthy of the land of marvels. We cannot help wondering whether the grandmother herself instituted these deviations from the beaten path of nature, or whether still earlier ancestors presented like aberrations, the record of which has been lost.

THE following extract from a recent number of the *Globe* refers to a matter of interest to us all, we therefore quote it in full :—

In Hewlett Road, Old Ford, I visited a family consisting of mother and daughter. The latter supports the old lady by making tooth-brushes, the making referring to putting the bristles in the handles, which have been already prepared. The materials, consisting of the bone handles, which are made from the shank bones of legs of beef, bristles, and wire, are supplied by the firm giving out the work, but the vice necessary to hold the handle while being threaded must be purchased by the operator. The bristle is supplied in an irregular

mass, cut to the right length, but mixed up as they fall from the cutting machine. This has to be picked out and arranged all one way. The proper quantity for each hole is then selected and placed in position, where it is retained by a piece of fine wire drawn tight. The constant working with this wire leaves its mark upon the hands of the maker, which become exceedingly tender and liable to break open. The particular job in hand on the occasion of my visit consisted of a lot of best brushes made with real bristle, and the pay for making is 5d. the dozen. This particular operator, being handy at the work, manages to do a dozen in rather under three hours, so that by working twelve hours a day she can earn 1s. 8d. The maximum earnings, according to my informant, are 7s. a week, "if I can get the work," but, as a matter of fact, this never is the case.

We have received the first Annual report of the Glasgow Dental Hospital. The institution, young as it is, has already done some good work. 3876 patients have been relieved since its opening on the 1st of May last. The staff consists of a consulting physician and surgeon, six dental surgeons, seven assistant dental surgeons, and an administrator of anæsthetics. We sincerely hope that the Glasgow Dental Hospital has many years of constantly increasing efficiency and prosperity in store for it.

GOSSIP.

THE Secretary of the National Dental Hospital has favoured us with a dignified rejoinder to "Fair Play," which we publish on page 255. We do not think "Fair Play" will gratify Mr. Klugh's curiosity by attacking the London Dental Hospital, as his *ardor scribendi* will probably have cooled down after the perusal of Mr. Klugh's reply. At the same time we think that the committee of the hospital will be acting wisely in relinquishing their project, seeing that it might open the door to an abuse of the charitable intention of the promoters.

Mr. HUNT, of Yeovil, has made at least one convert. Mr. Henderson Nicol has tried his plan of using cocaine as a local anæsthetic for extractions with great success. We are looking forward to receiving the experiences of more experimenters in this interesting subject.

We understand that the West of Scotland Branch hope to

arrange that the forthcoming meeting of the Scottish Branch in June, should be held in the Hall of the Faculty of Physicians and Surgeons, Glasgow. It has been decided that the two branches should hold their annual dinner jointly, on the evening of Friday, June 4th. The members of the West of Scotland Branch, resident in Glasgow, hope to arrange an excursion on the following Saturday for their visitors. We shall be able to give particulars in our May issue.

A LIVERPOOL dentist has summoned an old lady to recover £5, his fee for making her a set of teeth. The lady had persevered for ten days in attempting to wear the teeth in vain ; they were, so she said, "lop-sided" ; her grand-daughter concurred in this view. When the old lady tried to eat, the teeth all went to one side !

THE dentist offered to file them until the lady's "nose and chin met," if that would satisfy her, but not even this accommodating offer could reconcile her to pay the fee. The dentist urged that the unsatisfactory nature of the bite was owing to the patient *not having held her mouth straight while he was taking the impression.*

THE most curious feature in the report we have received of this case, was the singularly inappropriate outbursts of laughter that greeted every remark that was made during the trial. They laughed when they heard the old lady could not eat, they laughed at the assistant "filing down" the teeth, the roars that greeted the notion of an impression being taken, were redoubled when it was announced that *both jaws* had been subjected to the process ! It was a merry meeting, and we cannot be surprised that the genial company look to an "amicable arrangement" ; a people who can laugh over dentistry and law could scarcely quarrel seriously.

OUR readers will be pleased to hear that Mr. Richard White, of Norwich, is much better.

Dr. ARTHUR MECHAN has been giving a special course of lectures on Anæsthetics and Anæsthesia, to the students of the Dental Hospital of Glasgow.

Mr. V. POTOTZKY writing to the *Farmatzevitchesky Jürnal* recommends nitro benzol as a means for disguising the odour of iodoform.

WE have to apologise to Mr. R. Wynne Rouw, for having misspelt his name in our list of new members last month. The name was entered as Munro owing to a printer's error.

WE have received the report of the Victoria Dental Hospital, Manchester. It shows a good advance on last year's report, and we hope next year will be still more satisfactory.

WE are requested by the Secretary of the Royal College of Surgeons of Ireland to state in reply to a correspondent signing himself "L.D.S.England," that the name of the advertiser alluded to in his letter has long since been removed from the list of Irish Licentiates, and at the same time to explain that the Secretary cannot reply to anonymous letters.

A GRATIFYING compliment was paid to the profession in the invitation of the President of the Odontological Society, Mr. T. Charters White, to be present at the laying of the foundation stone of the new Examination Hall by the Queen—another sign of the rapidly advancing status of dental surgery.

CORRESPONDENCE.

We do not hold ourselves responsible for the views expressed by our Correspondents.

Broken Forceps.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—The interest evoked by the case you have reported from the Transactions of the Odontological Society and operated upon by Sir Wm. MacCormac, appears to be no more than the subject deserves. Although I have myself never seen any case where the forceps have broken during their proper use, yet it may not be so unfrequent as we may think, for very probably the case in question would never have been brought forward, but for its unfortunate result. There are no surgical instruments used requiring the material to be of a harder and more tough character than these, and it appears to me we might look for the fault not altogether in the process of manufacture, but in the material used.

An investigation into the real cause of a fracture of this kind is of paramount importance, especially if there be evidence of its frequent occurrence, and it seems to me that the Society before whom this case was brought should endeavour to solve the question.

If, however, there are any members of the profession having in their possession forceps broken in this manner and have full particulars about them, I have extremely good facilities for making a careful examination of the material of which they are made.

WILLIAM ELLIOTT, F.C.S.

33, Paradise Street, Birmingham.

An Extraordinary Human Dentition.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—I do not know whether you consider the following extract from the March number of the *American Naturalist* of sufficient interest to put in the Journal, but thought I would send it in case you might consider it of value.

Yours very truly,

THOMAS CHARTERS WHITE.

"A gentleman living in Charles City, Iowa, recently exhibited to me the following remarkable dentition. To name the teeth from their forms, the formula would be as follows:—I $\frac{1}{2}$ C $\frac{1}{2}$ Pm $\frac{3}{8}$ M $\frac{3}{8}$ $\frac{2}{3}$. By position the formula would read thus, I $\frac{1}{2}$ C $\frac{1}{2}$ Pm right side, $\frac{2}{3}$ left side $\frac{2}{3}$ Mol: $\frac{2}{3}$ Lemp $\frac{2}{3}$ M $\frac{3}{8}$. The first true molars in both jaws have a small accessory lobe on the inner side of the anterior inner tubercle. A brother of this gentleman has the following dental formula, I $\frac{1}{2}$ C $\frac{1}{2}$ Pm $\frac{2}{3}$ M $\frac{3}{8}$. A sister presents the following, I $\frac{1}{2}$ C $\frac{1}{2}$ Pm $\frac{1}{2}$ $\frac{2}{3}$ M $\frac{3}{8}$. A grandmother has the incisors $\frac{1}{2}$.

"E. D. COPE."

Cocaine in Dental Surgery.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Since reading the very interesting communication made by Mr. Hunt in your Number for January last, I have used the method suggested by him in about thirty cases, with nearly uniform success, and I most cordially support all that Mr. Hunt states in its favour. In nearly every case in which I had previously operated for the patient under nitrous oxide, my patients said they would prefer cocaine for the future. In one case in which I injected two-and-a-half grains with two very short intervals to extract three incisors and one bicuspid root in the lower jaw, my patient was unable to walk steadily for nearly half an hour, but otherwise felt no inconvenience. In the only other case in which I injected the same quantity with but one short interval, for a very severe and rather difficult extraction, the local anæsthesia was very perfect, and the patient felt no inconvenience at all.

As a rule I find one grain ample for one operation, but the time required to produce its full effect has varied in my cases from two to fifteen minutes. In but one case have I met with slight nausea afterwards. I use an English make of cocaine obtained from Messrs. Reynolds and Branson, of Leeds, and am so satisfied with the results so far, that I do not intend to try any other at present. I get it put up in small corked tubes one grain in each, arranged in holes in a block of wood ready for use, which is a most convenient place. The one thing now wanted is a syringe with either a curved needle or a socket to fix a rather shorter needle at an obtuse angle, to be used when from the position, a straight one cannot be so conveniently applied. Of course for extracting any considerable number of teeth at one operation, cocaine is unsuitable; but, fortunately, the bulk of our operations are not now of this wholesale character, and it will, I feel

sure, very soon take the place of nitrous oxide in a large number of cases in which that anæsthetic is now used.

I am, Sir, yours faithfully,

WM. HENDERSON NICOL, L.D.S.Eng.

2, Clarendon Road, Leeds, 28th March, 1886.

The National Dental Circular.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Your Correspondent has scarcely chosen an appropriate name under which to write to you complaining of the Circular recently issued by this Hospital, as it is not "Fair Play" to only give one part of a sentence leaving out the context.

I enclose you a copy of the Circular referred to, by which you will see that the important condition: "providing the servants are unable to pay a private practitioner for advice"—is distinctly stated, as the necessary qualification for these tickets. This completely cuts your Correspondent's ground from under his feet, and I can quite endorse your rebuke to him, as to his "somewhat reckless mode of expression." It is right that it should be known that this Circular received the very earnest and careful attention of the Committee, and all the arguments which "Fair Play" brings against it were discussed before it was issued, but it was thought that the above-named condition would prevent the results which your Correspondent anticipates.

I shall be curious to see whether "Fair Play" will also attack the London Dental Hospital, as I notice that Sir Henry Peek speaking at the Annual Meeting of that Hospital is reported as follows—"From the many applications to him for the cards he had to give away he was familiar with the relief which *young servants especially* had obtained from treatment at the Hospital, and he was being continually and most warmly thanked by them for the relief which they had obtained from the misery caused when the teeth were out of order." As a matter of fact your Correspondent has very little to fear, for although a very large number of the Circulars have been sent out, they have been issued more as a test of the interest of the Householders in preventing the continuation of the frightful ignorance prevailing among servants with regard to the care of the teeth; but I am sorry to say that the results up to the present, very clearly show that Householders take very little interest in the matter, and the Committee, I believe, do not intend pursuing the subject further.

I have the honour to be, Sir,

Your obedient servant,

ARTHUR G. KLUGH,
Secretary.

National Dental Hospital, 149, Great Portland Street,
29th of March, 1886.

The Staff and Students' Dinner.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—A letter referring to "The Recent Student's Dinner," and signed by "an Old Practitioner," appeared in the last issue of your Journal. Will you allow me a short space for a few statements in answer thereto.

I would first point out that the term "Students' Dinner" seems

generally to be employed for convenience in connection with this gathering, but it does not exactly express its true nature; the more high sounding title which appears on the programmes, viz., "The Annual Dinner of the Staff and Past and Present Students of the Dental Hospital of London, and London School of Dental Surgery," conveys a more correct idea of its component elements. Now, as almost each one present at this rapidly enlarging and popular annual dinner already is, or hopes to become a member of the Odontological Society and the British Dental Association, your Correspondent will, I am sure, acknowledge that it can be from no desire to overlook or forget these universally honoured institutions, that their names are omitted from the Toast List. The list, already a long one, has never varied since the origin of the dinner. At that time it was considered advisable to make the gathering as emphatically as possible a purely social one amongst those connected with the Hospital and School, and hitherto there has appeared no reason for departing from the original intention.

Secondly, your Correspondent expresses surprise at seeing a gentleman occupy the chair who was neither a past or a present student. With regard to this, let me point out the fact that on only one occasion since the foundation of this social banquet has the chair been occupied by a gentleman who has been a former student of the Hospital. I refer to the instance of Mr. C. S. Tomes, who was invited to preside in the year in which he resigned the Lectureship on Dental Anatomy and Physiology at the School. The other chairmen have been chosen from those who have fought the battles of the profession in olden times, and whom the younger members delight to honour, or from veterans on the staff of the Hospital. Amongst these few can record a longer period of active service, and none have gained for themselves more respect and popularity than the worthy Chairman of this year, Mr. Woodhouse Braine, whose connection with the Hospital now extends over a period of some sixteen years.

Lastly, I would thank "an Old Practitioner" for his suggestions, and assure him that they will, in common with any others which may be volunteered, receive due consideration when the time for the arrangements for the Dinner comes round again.

Yours truly,

DAVID HEPBURN,

*Chairman of the Dinner Committee, Dental Hospital of London,
April 9th, 1886. Leicester Square, W.C.*

The Publishing Committee of the Association will be happy to give a shilling (per copy) for the February number of this Journal. Please address to the Editor, 40, Leicester Square.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 40, Leicester Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Members are reminded that their Subscriptions for the current year are now due and should be remitted to the Treasurer, at 40, Leicester Square.

According to the Byelaws of the Association, Members who are one year in arrears are not entitled to receive the Journal.

All Correspondence for the Editor, Books for Review, and Exchange Journals should be addressed to 40, Leicester Square, London, W.C.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 5.

MAY 15, 1886.

VOL. VII.

The New Branch.

WE chronicle with more than ordinary satisfaction the inauguration of the Southern Counties Branch of our Association, which took place at Brighton, on Wednesday, the 12th inst. As may be seen from our brief report, the meeting was a thoroughly representative one, and the number of letters received from all quarters of the included districts shows that there is a wide-spread interest in the movement entertained by many who were prevented by circumstances from personal attendance on the occasion. The influence of branches upon the welfare of the Association has been again and again pointed out in our pages, and the fact that the Association is really made up of branches cannot be too emphatically insisted upon. By their local action they relieve the scattered members of

the general body from their isolated position and, by bringing them into contact with each other, awaken in them new interests and new and elevating sentiments regarding themselves and others, which must extend towards the profession at large, and so tend to bind us closer and closer together as a distinct body of professional men, and to strengthen and perpetuate the continued effort which is required to overcome the many obstacles lying in the path of progress. The general influence and importance of the Branches are manifested by their work during the year, by the way in which they keep alive the attention of our members to the affairs of the profession, and by the amount of excellent literature which they provide for the pages of the Association Journal, and indeed we may say that our Annual General Meeting is but a Branch gathering on a large scale where the work of the year seems to culminate, and where the whole energies of the various branches seem focussed for a brief period.

For reasons which have been frequently explained, and which are obvious to all who have studied our constitution, the abode of the Executive is necessarily in London, but our Annual General Meetings are held in all parts of the kingdom, and in their success or failure we may see reflected the activity and industry of the branches during the intervening periods of time. That the new branch will be a potent factor in swelling the total of our annual stock-taking we do not for a moment doubt.

The annual meeting of the Midland Branch, which was held at Bradford last month, is a most gratifying example of the energy and goodwill of our members in the north. There are other annual branch gatherings coming on, and in them all as in this branch we hope to be able to mark the growth of the same healthy professional spirit, and the same intelligent consideration of the many subjects which

more especially belong to the practice of our profession. Meanwhile, we must all be patient and unassuming; we are not yet out of the mire of professional degeneracy, although by the exercise of a wise and generous policy, we may justifiably hope to rise slowly and steadily to that position of professional respectability, which is the reasonable aspiration of every true member of a liberal profession.

Odontology at the British Museum.

EVERYONE is no doubt aware that the national collection of natural history has been removed from its old home in Great Russell Street to the splendid and spacious building erected expressly for its reception at South Kensington. But although the beasts and birds, together with a large staff of naturalists who take care of them, have changed their abode from Bloomsbury to South Kensington, they flatly refuse to abandon their old name; they will not consent for a moment to be called the South Kensington Museum; they are the British Museum still and always will remain so, and we can sympathise with the fondness with which these friends of our childhood and their guardians still cling to the name of their ancient home. We well remember their exodus from Great Russell Street, and a very touching sight it was, and we could not help fancying it must have been a rude shock to some of the older animals. That old and once hairy rhinoceros that had stood so long at the top of the grand staircase—the side he presented to the public, bald and polished by the affectionate fingers of countless generations of happy children, notwithstanding the pathetic notice on his footboard “visitors are requested not to touch!” (as if any visitor could help touching the first hairy rhinoceros he saw)—must have found it hard to have to take his unilateral mange into the glare of the palace

at Cromwell Road. We hope the authorities have decently turned his weak side to the wall. However, it is, no doubt, a consolation to them all, to feel they are still in the British Museum. There is the giraffe that has been stuffed so as to make it look like a horse seen through a bad piece of glass, with its skeleton beside it to show how its neck ought to have sloped (a sort of filleted giraffe). The elephant is a very poor looking thing, its meagre proportions are very disappointing to intelligent children; it would be better if the nation cannot afford a good elephant not to pretend to have an elephant at all. The baby elephant (or "elephant bud," see Ph. Robinson), and the large elephant's foot do not excuse the paltry appearance of this stunted adult. A few other popular beasts have suffered from the caresses of their admirers, and present polished patches of furless back here and there, but public favour always has its drawbacks. On the whole the new Noah's ark looks very well stocked, and the task of arrangement has been carried out with care and skill. Close to the entrance of the beast's room is a truly ghastly preparation—two large glass jars containing the pickled heads of two adult anthropoid apes. No one can conceive how repulsive these dead ancestors look, the very fact of decapitation gives them a human look. An executed monkey seems as if it must have committed a crime, and this would surely leave little difference between it and man. One problem at least is nearer solution when we have gazed upon this little chamber of horrors, for in the repulsive features as we trace each hideous exaggeration of a criminal and brutal human face, it is not difficult to recognise on Darwinian principles the early dawning of those passions that find expression now-a-days in cattle torturing and moonlighting. We hope we do not wrong the dead chimpanzee.

In the great hall, on the left hand side as you enter, is a small but choice collection, which cannot fail to prove absolutely invaluable to the student of dental anatomy. It is the very thing we have always wished to see done, and it has been done in a manner that leaves nothing to be desired, and we have no doubt the students of our hospitals will make many pilgrimages to Cromwell Road, in order to profit by the instruction offered to them in so attractive a manner.

The central case, which is about 12 feet long, by 6 feet broad, is divided into a series of compartments. In each compartment certain broad facts in dental anatomy are stated on a label, and illustrated by carefully selected specimens of typical varieties; in every case the roots, as well as the crowns, are shown in situ, and on each tooth is a tiny label, giving its name (such as I, or P, &c.), a most useful innovation. In addition to all this, there are a few careful copies of Waldeyer's familiar drawings, to illustrate the minute anatomy.

The first case, which is the only one yet completed, is devoted to the mammalian class. It commences with a review of the general characteristics and structure of teeth, and their modifications in relation to function, and then touches upon all of the great groups, giving a few specimens of each. It is, of course, unavoidable that the views of certain naturalists should find special favour, and our students may be surprised to find the horse with the following formula:— $I_1^3 C^1 p_3^3 m_3^3 = 40$. The premolar that has no predecessor, and is early lost, is not reckoned at all here. The incisor formula of the primates is given, $I_1 I_2$; not as our Scotch friends would have us believe— $I_1 I_3$, and the premolar series is given as in Tomes' manual, and not according to Prof. Wilson. There is a specimen of the jaw of a young elephant, with the developing molars, that we

are sure would save much headache and much wasted time, to our students if they would have a good look at it; it is a simple, ocular demonstration of a process that is very difficult to describe in language. We would also call special attention to a series of four lower and four upper jaws of kangaroos, at various ages, showing the manner of the eruption of the teeth, and how only one has a predecessor. These beautifully prepared specimens lead us to indulge in a hope that when the reptiles' teeth are exhibited, there will be a specimen demonstrating the working of the poison fang of the viper. Huxley's description, quoted by Charles Tomes, is so confusing and entangled, that no one but a naturalist (or perhaps the snake himself) could really understand it; and, as Mr. Tomes has not described the process in his own language, we must wait for some such demonstration as these delightful cases abound in, before it will be "understood of the people."

In passing, we may add that the cachalot's tooth has a very pretty nodule of secondary dentine, which, according to the pleasant view of a recent writer, need not have given Behemoth any trouble, otherwise it would suggest painful thoughts. We all know about that ill-fated historic porpoise with the abnormal "bite," and how his teeth wore down faster than the secondary dentine could be formed to protect the pulps, and eventually the animal died of the effects of some *scores of alveolar abscesses*. He must have been a porpoise to avoid towards the end of his awful dental experience, but what is he to a whale with something pressing on his pulp? But, after all, Mr. Bland Sutton is rapidly dispelling any fancy about the immunity of the beast-world from dental troubles; in fact it is quite conceivable that the mammoth may have suffered periostitis in his fifteen-foot tusk, in which case the birds and the fishes alone can have enjoyed a sense of security. The name of

the mammoth brings us to another field of pleasant study to the lover of dental anatomy—the fossil department. Fossils suggest teeth, and, in many senses of the word, teeth suggest fossils; most of the fossil remains preserved in museums are teeth, and most of those extinct creatures that peopled a bygone world are named according to their teeth—Mastodon, Labyrinthodon, and the rest of them. Give the *savant* the tooth and he will construct you the whole animal at once; the tooth is the key that opens to us that most wonderful of wonderlands, the world before the deluge, and tells us of animals that lived in the days when beasts were really worth looking at. The Mammoth himself, that was to Jumbo much what Jumbo was to the baby elephant at Cromwell Road, with tusks as long as a good-sized modern elephant, with fiery red hair (and very likely a short temper, as red-haired people often have), lived in the same world with a pigmy race of elephants, elephant dwarfs, that would not have reached up to Jumbo's elbow—a veritable proboscidian Brobdignag and Lilliput; the steady, sober-minded beaver built his cities where now the speculative builder flourishes around London, and there left his imperishable molar teeth with their pretty pattern of enamel and dentine, differing in no respect from his modern transatlantic descendant. In this same room, at the extreme end, are the fossil birds and casts, drawings, and specimens of the weird birds with teeth, unearthed so recently by Professor Marsh—Hesperornis Regalis, and his kith and kin. He was a bird with awful advantages, for he possessed a jaw armed like that of a crocodile, and stature that would compare with a fine ostrich. It is difficult to imagine why he chose to become extinct, for certainly no one could have forced him to it; it may have been pride or exclusiveness, or perhaps the awful weather of those pleiocene times was too much for this terrible feathered monarch.

We could ramble on in this pleasant field of conjecture for an indefinite time, but space forbids; suffice it to say that the British Museum in Cromwell Road is a rare treat, whether to the energetic student, or to the contemplative philosopher, and as there are so many of both to be found in our ranks, we shall recur again, at no distant date, to a review of its treasures.

ASSOCIATION INTELLIGENCE.

The Annual General Meeting.

WE are requested to state that Mr. F. Canton, the Honorary Secretary, will be glad to receive the names of those gentlemen desirous of reading papers at the Annual Meeting, with the title of the paper and about the time required to read the same; also the names of those gentlemen willing to assist in giving demonstrations, &c.

The Representative Board.

THE next meeting of the Representative Board will be held at 40, Leicester Square, on Saturday, June 5th, at 3 p.m.

The Central Counties Branch.

A MEETING of the above was held on Thursday, the 25th of March, 1886, in the Board Room of the Birmingham Dental Hospital, 71, Newhall Street. Among those present were Frank C. Huxley, president, in the chair; Professor Poynting, Messrs. F. W. Richards, F. A. Goffe, J. Madin, C. Sims, W. Palethorpe, G. D. Orrock, J. Humphrey, P. T. Nadin, J. S. Crapper, C. Matthews, A. D. Miller, E. J. Hordern, F. R. Howard, E. E. Mill, J. L. Robertson (Cheltenham), Peyton Levason (Hereford), Roff King (Shrewsbury), F. J. Thorman (Leamington), and Breward Neale, Hon Sec.

The routine business having been disposed of, at six o'clock Professor POYNTING, of Mason College, Birmingham, read a paper on "Thermometers and Thermostats."

The explanation of the various methods was clearly shown by means of apparatus specially provided for the purpose, and altogether the paper was voted as one of the most instructive and interesting that have been read before the Branch.

Mr. PEYTON LEVASON then read a paper on "Sponge Gold Filling." He claimed for the method the advantages of (1) rapidity; (2) adaptability to the walls; (3) that the dam may be dispensed with; (4) that no retaining points are necessary.

After the paper, an adjournment was made to the Filling Room, where he gave a demonstration, inserting a sponge gold filling in an interstitial cavity in a right superior central without the rubber dam, and which occupied less than half-an-hour from the time the patient took the chair until the filling was polished. The members present then carefully examined the filling by means of the electric light and tested it thoroughly, and pronounced it a very creditable piece of work, and especially so, considering the disadvantage of working by gas-light.

On returning to the Board Room a discussion took place, in which Messrs. Robertson, Sims, Neale and Crapper took part. Mr. Robertson stated that he had seen some of Mr. Levason's sponge gold fillings which had stood the test of time, and which appeared in every way satisfactory, showing neither the signs of discolouration or disintegration after some years' wear, and Mr. Levason replied. Most of the gentlemen present expressed their intention to give sponge gold filling a trial, seeing that it could be inserted so easily and quickly, for the filling Mr. Levason had made would occupy fully an hour with ordinary gold.

Mr. ROFF KING then read an interesting communication on "Copper Amalgam," describing the methods used in making this preparation and a somewhat refined process of his own to avoid discoloration, the copper being thrown down in hot water with iron, and not in cold water with zinc.

The meeting then terminated.

It was announced that this would be the last meeting of the session, 1885-6, and that the Annual Meeting would take place in October next.

It is satisfactory to note that the number of members and associates of this Branch continue to increase, and it is hoped that before the Annual Meeting the number will be still further augmented. The Hon. Sec. will be pleased to receive the names of

gentlemen willing to join, addressed to him at 71, Newhall Street, Birmingham.

BREWARD NEALE, *Hon. Sec.*

The Western Branch.

THE usual April meeting of the Council of this Branch was held at the Grand Pump Room Hotel, Bath, on Saturday, April 17th, the President, G. C. MCADAM, Esq., of Hereford, in the chair. It was decided that the annual meeting at Exeter should be held on Friday, July 30th; the arrangements to be left in the hands of the President-elect, J. T. Browne-Mason, Esq. The business meeting and the reading and discussion of papers will take place at the Board Room of the Devon and Exeter Hospital. Demonstrations at the Dental Hospital of Exeter. The Hon. Sec. will be glad to receive early intimation from gentlemen intending to read papers or give demonstrations. The full programme of arrangements will be published later.

HENRY H. MASON,

3, Bedford Circus, Exeter.

Hon. Sec.

The Midland Branch.

THE annual meeting of the above Branch was held at the Technical College, Bradford, on Friday, April 30th, Mr. H. BLANDY, retiring President, occupying the chair.

The SECRETARY (Mr. Waite) read the annual report, which was as follows:—

"In presenting their annual report, your Council have to review the past year with satisfaction not unmixed with some regret.

"The meeting held in Nottingham was in every respect pleasant and profitable. The annual meeting of the British Dental Association at Cambridge in August, at which several of our own members were present, was also an occasion long to be remembered. Since then we have held two occasional meetings, one in Sheffield, October 24th, the other in Manchester, February 20th; at both of these the attendance has been good.

"The total number of members elected since the Branch was formed has been 125; of these 4 have been removed by death, 4 have resigned, 15 have lapsed through non-payment of the subscription to the Parent Society, leaving a net total of 102 members on our roll to-day. Also we have elected 8 associates, of whom 1 has died, 1 resigned, leaving 6 on the book.

"The Council again desire to call attention to this provision, by which those who do not feel able to become full members may yet avail themselves of the privileges of the Branch meetings, and thus bring themselves into alliance with the only representative body in the profession.

"Turning to the political purpose of the Association, your Council are glad to be able to assure the members that the Association, through its Executive, is devoting itself with no little success to the purifying of the Register and the closing up of any improper avenues of access to it. In all times of important transition, persons are to be found ready to take fraudulent advantage of new circumstances, and secure for themselves unmerited benefits, but these are the accidents which serve to discover points of weakness that require to be guarded, and we can to-day even be thankful for some of these accidents, inasmuch as they have led to diligent precautions in defence of the position for which some of us have laboured so hard. For obvious reasons, language on such an occasion as the present is restricted, but the Council have good reason to assure the members that the Dental Register is to-day totally inaccessible to all but those who approach it through legitimate channels.

"The Council much regret having to record the retirement of Mr. Matheson from the midland district—he being shortly about to settle in London—and they desire, in the name of the members of the Midland Branch, to thank him for the very valuable help he has given ever since the Branch was established, and to wish him every success in his new sphere of labour.

"Your Council would appeal through the members for more extended support from the already established and educated practitioners of our specialty.

"In accordance with the Bye-laws, the Council nominate A. M. Matthews, Esq., of Bradford, as President, and F. Bullin, Esq., of Chester, as President-elect for the coming year, and they recommend that the next annual meeting of the Branch be held in Chester."

The PRESIDENT moved the adoption of this report. The Branch had been successful in its mission, considerably more members having been enrolled during the last year. He asked if the non-payment of the subscription to the Parent Society necessitates removal from the Branch?

The SECRETARY replied in the affirmative.

The PRESIDENT remarked that the subscription was a very small sum to pay for the benefit received. There is a complaint that cases are sent up from dentists in the country insufficiently supported by evidence, and when the London Secretary appeals for evidence he does not get it, and it might save considerable time to him if more reliable evidence were sent up. After touching upon the retirement of Mr. Matheson and other changes on the Board, the President moved the adoption of the report.

Mr. A. W. MATTHEWS seconded the motion, which was agreed to unanimously.

The TREASURER (Mr. S. Wormald) read the balance sheet.

Mr. MURPHY (Bolton) moved a resolution adopting the balance sheet, and suggesting that ten guineas out of the funds in hand should be handed over to the Benevolent Fund of the British Dental Association.

Mr. BRUNTON (Leeds) seconded the resolution, and it was carried.

Three Councillors were elected in place of three retiring by rotation, and a fourth was elected in place of Mr. Matheson resigned, the balloting resulting in the four following being appointed: Messrs. Renshaw (Rochdale), Pike (Sheffield), Harding (Shrewsbury), and Wormald (Bury).

The Secretary and Treasurer were re-elected, and thanked for their services.

The SECRETARY (Mr. Waite) proposed a vote of thanks to the retiring President, which was seconded by Mr. Matthews, and adopted with acclamation.

The retiring PRESIDENT expressed his thanks for the vote. He said that the Association was one of the greatest possible levers to elevate our profession in the provinces. He spoke of the importance of attending the meetings, even if a member did not read papers and give demonstrations. He hoped that no more gentlemen would allow their membership to lapse through non-payment of the small subscription, and that the new President would have to utter no words of regret on this subject next year. He then touched upon a question that is coming to the front in the Council, with regard to the election of members. He had laid it down as a rule since he joined the Association that it was to be a counterblast to the reckless and somewhat wholesale way in which men who chose to style themselves dentists were registered. Any man, any blacksmith, any barber who had ever drawn a tooth, could get

himself registered if he were unscrupulous enough to make the declaration and pay the money. In consequence we got a Register, but this Association was established as a counterblast to that Register. Only *bonâ fide* members were eligible to this Association. They were not to be allied with any advertising men—men who degraded their profession by exhibiting specimens of their work in cases or in their windows, or advertised in the public prints. He had consistently maintained these lines both in the Branch and on the Representative Board in London, and he desired the opinion of the meeting upon his conduct. "I want you to understand this, that I have opposed and propose to oppose any man being elected into this Association who in any way advertises his profession, or lays himself open to an objection. Even by small advertisements you admit the small end of the wedge. We must be above that. We are sufficiently strong. This Association numbers something like five or six hundred members. We have in our own Branch something like one hundred. Now as to men who are on the Register practising in other businesses, such as chemistry, or even a decayed doctor who cannot get on as a medical man, and who chooses to style himself a dentist, by the bye-laws of the Association we may allow any member who has registered and carries on his business without the exhibition of 'specimens, public advertisements,' and so on. This was to some extent an oversight, for when this Association was formed it was not intended that anybody should be allowed to come into it who carried on a chemist's business, either apart from his dental business or in conjunction with it. He must be a *bonâ fide* dentist, carrying on his business in a straightforward way, therefore I oppose the admission of any chemist, and I object to any man who practises any business other than that of a *bonâ fide* dentist becoming a member of this Association. I hope the meeting will express its views. I have only, in conclusion, to thank you most heartily for the great kindness and forbearance which you have shown to me during my term of office, and I also wish to thank the Secretary and Treasurer for the able assistance they have rendered to me in the discharge of my duties."

Mr. LADMORE: As to Rule 2 which the President has mentioned, we could see that flaw in Bradford, and we put in for ourselves one phrase which covers it, "and practise as dentists solely."

Mr. HARDING: I agree with the President as to advertising

not only in its fullest extent, but in any form or guise. The question of admitting members to the branch who conduct their practice in conjunction with another business, I think, comes somewhat under another category, and perhaps will not meet with the universal condemnation that advertising would. I think we should not be guided in our decision by individual cases, such as a case which might arise of some highly respectable man, conducting both his dental practice and also his business as a chemist in a legitimate manner. I think such a case would put the matter rather on a side issue, if it were selected as a typical one; such a case I think would not be typical, but rather a picked case, and an exceedingly good one from the point of view of a chemist conducting a chemist's business separate from his dental practice. We all know that that is not the general rule, but that those who practice dentistry and also trade as chemists, generally speaking, you will find, have loose cards lying about the shop; they have a show case in the corner; and so you have the various grades until you get the fully advertising dentist coupled with the chemist. You may get a highly respectable man working the two, but if you admit men at all who are in business as well as dentists you open a wide door. If you do not draw the line at the outset I don't know where you will draw it, because a man may say he does not advertise, but he may have in his shop some cards lying about. It is very difficult to prove whether a man does advertise or not when he is in business as a chemist. According to the bye-laws as they now stand we must admit every dentist who is on the register providing he conducts his practice in a legitimate and correct manner. Then the question comes in, Is a man carrying on his business as a chemist to be admitted, if so, why not have a gas-fitter or a paper-hanger? I do not see any difference. A man in trade, carrying on a trade and also a profession, is that conducting a business in a respectable manner from a professional point of view? I submit that it is not.

The SECRETARY: But the Act of Parliament says it is.

Mr. HARDING: Not in a professional respect. It is a difficult point as the rules now stand. If the rules were altered in the manner suggested by Mr. Ladmore, it would obviate the difficulty.

Mr. MATTHEWS: What would be the probable effect of a clause of this description upon the members of the British Dental Association? We get at it very probably by going through the list and seeing how many names there are of those who combine the two professions, or profession and business.

A MEMBER said the number would not be half-a-dozen.

The PRESIDENT: You mean as to the number now on. My idea was to get the sense of the meeting as to the admission of chemists and advertisers in the future.

Mr. MATTHEWS: I think it would assist our judgment to know how many are in now.

The PRESIDENT: There are a few who have crept in. I don't want this conversation to end in nothing. I may say that I have written to the Scotchmen and they are entirely against the admission of chemists, and I have written to others in the South of England, and it is proposed to bring this question up again in London in August, and I think it will be a very simple thing to adopt the suggestion of Mr. Ladmore.

Mr. HARDING moved a resolution in accordance with Mr. Ladmore's suggestion.

Mr. GLAISBY seconded it.

Mr. BULLIN: Why should we have men other than dentists and *bonâ fide* dentists in our midst. If they were so admitted, a very large number of us who have been in the Association many years, would naturally retire, because a great portion of us have spent our days in raising our profession by honourable means, and each in his little way has raised it, and we ought to try to raise this profession to the equal of the medical profession.

Mr. CRAPPER quite agreed with the proposal which had been moved and seconded.

Mr. HARRISON also gave the resolution his hearty support.

The resolution was agreed to unanimously.

The PRESIDENT-ELECT then expressed his gratification at the compliment that had been paid him in his election, and welcomed the Association to Bradford. He spoke of the growth of the profession and the advantages enjoyed by the younger generation, and compared the pathology of to-day with that of forty years ago, when he commenced practice in Bradford. Speaking of the Dentists Act, he drew attention to the fact that it drew a line between the educated practitioner and the charlatan. He referred to another point of general interest—the compulsory attention to the teeth of the young, so recently and ably raised by Mr. Fisher of Dundee, and referred in complimentary terms to the agitation raised by Mr. Spence Bate upon dentistry in the Navy. He then touched upon some points of practice, notably the use of the file

in removing incipient caries, and closed his remarks by thanking his audience for their attention.

THE ANNUAL DINNER.

The annual dinner of the Branch was held at the Alexandra Hotel, Bradford, on the Friday evening after the Conference. Mr. A. M. Matthews (President) in the chair, supported by Dr. Goyder, Dr. Meade, Dr. Major, Dr. Walker, and Mr. Blandy. Thirty-six persons were present.

After the usual loyal toasts from the chair, Dr. GOYDER proposed the British Dental Association and Branches and the Bradford and District Dental Society. After alluding to the sympathy that existed between the general profession and the special branch of dentistry, he alluded to their possibly similar origin in the barber-surgeons, and to the rapid rise that had brought them to their present position. But apart from history, he considered that dentistry ought to hold a high rank amongst the professions. Its great aim was the assuagement of a very terrible pain, and with this end in view the special anæsthetic, so frequently employed in dentistry, had been brought to a very great degree of perfection in its mode of administration. The dental profession were engaged in procuring health and longevity for their patients by promoting a perfect mastication. The speaker told a story of Lord Brougham, who, having the misfortune to drop his artificial teeth in the middle of a speech, exclaimed, "Confound the teeth! they are a trouble from the cradle to the grave!" and he thought that the importance of dentistry was enhanced by this life-long necessity for it. He congratulated the Association upon its success, and wished it increased honours for the future.

Dr. WALKER, in reply, alluded to the work of the profession during the last thirty years. He traced the early struggles of the profession and recalled the story of the early labours of John Tomes, and those that worked with him, in the establishment of the Licentiatehip, the Odontological Society, and the Dental Reform Society, and then he spoke of the more recent and more familiar achievements—the passing of the Dentists Act and the establishment of the British Dental Association. He described the working of the dental hospitals and the elaborate education that was required to obtain the dental diploma. He spoke of the Benevolent Fund and the growth of the Journal, and closed his remarks with a few words of advice upon preliminary dental education.

Mr. KIRK, President of the Bradford and District Dental Society, responded on behalf of that body. In the course of his speech he mentioned that they were endeavouring to start a dental hospital in Bradford, and he trusted that their efforts would be crowned with success.

Mr. BLANDY, of Nottingham, proposed the toast of the medical profession, and referred to the amicable relations that existed between the members of that profession, and those who practised the speciality of dentistry.

Dr. MEADE, in reply, said that dental stood now upon the same footing as oral surgery. He spoke of the investigations of John Hunter into dental anatomy and pathology, and congratulated the dental profession on its rapid advancement.

Dr. MAJOR also replied.

Mr. HARDING proposed the "town and trade of Bradford," and Mr. E. J. LADMORE responded.

Mr. CARTER proposed the "health of the President," which was drunk with musical honours. The "health of the Secretaries" was proposed and responded to, and the company then separated.

The papers read at the meeting will appear as soon as possible in the pages of this Journal.

The Scottish Branch.

THE Annual Meeting of the Scottish Branch will be held at Glasgow, on Friday, 4th June.

The Business Meeting will take place in the Faculty Hall, St. Vincent Street, at 4 p.m. Mr. Campbell, president, in the chair.

BUSINESS.

Papers by Rees Price and P. Crombie. Communications by W. S. Woodburn and W. Bowman Macleod. Members and visitors are requested to bring forward incidents in practice, models, &c., &c.

W. BOWMAN MACLEOD, *Hon. Sec.*

The Scottish and West of Scotland Branches.

FRIDAY, JUNE 4TH.

4 p.m.—Annual meeting of the Scottish Branch will be held in the Hall of the Faculty of Physicians and Surgeons of Glasgow, 219, St. Vincent Street, Glasgow.

6.30 p.m.—The Annual Dinner of the two branches, will be held jointly at Maclean's Hotel, St. Vincent Street.

The President of the Scottish Branch in the chair.

The President of the West of Scotland Branch, croupier.

Saturday, June 5th.—Excursion in the steam-yacht "*Ærolite*," from Greenock. Train from Glasgow about 10 a.m. The cruise is arranged by the members of the West of Scotland Branch resident in Glasgow, in honour of the visit of the Scottish Branch to this city, and will terminate in time to allow gentlemen from a distance to return home the same evening.

Eastern Counties Branch.

THE annual general meeting of the above Branch will be held at Lincoln, probably, on June 30th.

It is anticipated that the attractions of the town will be an additional inducement to members of the Association to attend the meeting. Lincoln is within easy reach of many midland towns.

Members who are willing to read papers, or in any other way assist at the meeting, and visitors and members who intend being present, will oblige by communicating with the Hon. Sec., W. A. Rhodes, 53, Trumpington Street, Cambridge.

Formation of a Southern Counties Branch.

THERE being a general desire amongst the dental practitioners of Brighton that a Southern Counties Branch of the British Dental Association should be established, a preliminary Conference was held by members of the British Dental Association residing in Brighton, for the purpose of discussing the question. The Conference resulted in a small provisional Committee being appointed for the purpose of organising a meeting of dental practitioners who were members of the British Dental Association resident in the proposed district, namely, Surrey, Sussex, Kent, and Hampshire, for the purpose of establishing a Southern Counties Branch. This meeting of dental practitioners in the district, was held in the afternoon of May 12th, in the Mayor's Committee Room at the Brighton Town Hall. Mr. J. S. Turner (Vice-President of the Representative Board of the British Dental Association) presided,

and there were present Messrs. A. E. Anderson (Maidstone), W. B. Bacon (Tunbridge Wells), W. Barton (Eastbourne), M. L. Bell (Canterbury), C. H. Bromley (Southampton), F. Canton (London), W. G. Daish (Ryde, I.W.), W. H. Daish (Ryde, I.W.), J. Dennant (Brighton), A. Gabell (Red Hill), Morgan Hughes (Croydon), J. H. Redman (Brighton), E. M. Tod (Brighton), F. J. Vanderpant (Kingston-on-Thames), J. E. Welch (Brighton), J. H. Whatford (Eastbourne), W. R. Wood (Brighton), W. R. Wood, jun. (Brighton), J. C. Wheeler (Southsea), &c.

The CHAIRMAN, after thanking the meeting for having voted him to the chair on that occasion, said that for many years he had strongly urged, whenever he had an opportunity, the desirability and great advisability of the formation of a branch of the British Dental Association in the Southern Counties. Those who looked upon the Southern Counties from a distance, knew that the Southern Counties were studded by a large number of very excellent practitioners, who were continually meeting with a large number of clients who were not resident in the localities in which they practised. Their Association had, with other objects, in view the education of the public—that was to say, they had the desire that the public should become acquainted with the fact that dentistry was now an established and well-defined profession; that they were supported in their position by legal enactments, and that there was a large number of educated men whose minds had been educated, and whose fingers followed their educated minds, ready to serve them in a professional spirit. This was what they wanted the public to know, and what the public, he believed, from the signs of the times, was gradually beginning to appreciate. He had therefore very great pleasure in being there that day. The formation of a Southern Branch was something that he had looked forward to most anxiously. He did not think he need say any more on this subject to them, but would refer at once to the agenda paper, and call upon his friend, Mr. Dennant, to read the notice convening the meeting.

Mr. DENNANT, having read the notice, said he had received letters favouring the object of their meeting from Messrs. Anderson (Maidstone), Bacon (Tunbridge Wells), Barton (Eastbourne), Bell (Canterbury), Bromley (Southampton), W. H. Daish (Ryde), Foran (Eastbourne), Henry (Hastings), M. Henry (Folkestone), Kerling (Epsom), Pedley (London Bridge), Rymer (Croydon), Vanderpant (Kingston-on-Thames), Whatford (Eastbourne), and

Wheeler (Southsea). He had also received the following letter from the venerable and beloved leader of their profession, Mr. John Tomes:—

Caterham Valley, Surrey,

May 6th, 1886.

My dear Mr. Dennant,—The formation of a Southern Branch of the Association is surely a sign of advance of our calling upon professional lines. Union for the furtherance of a general purpose, and that purpose professional culture in its widest meaning, is to make open war with narrow views and personal exclusiveness—the parents of illiberality and greed—to substitute the field-glass for the microscope. We are most of us too apt to regard our own immediate surroundings as a general measurement, and thereon proceed to condemn that which, with a wider knowledge of the general subject, we should readily tolerate, and perhaps support. The ready cure for this limitation of view and blundering interpretation is free association with our fellow-men of all grades and callings, beginning with those of our own calling. On these grounds the Southern Branch has my hearty good wishes, and I would gladly attend its first meeting, but the month of May cannot be trusted by those suffering from chest weakness, and whose remnant of life is at best of limited extent, and readily brought to a close by conditions which by the strong may be disregarded. I am looking forward to the meeting in August, when I hope to see many old friends and to make the acquaintance of not a few new ones. By that time, it seems likely that medical legislation will be set at rest, and our position rendered permanent for a generation to come.

I remain, yours truly,

JOHN TOMES.

Mr. DENNANT then made the first proposition. He said he was sure they all felt the value of an Association, and echoed the sentiments expressed in Mr. Tomes' admirable letter. They were all interested in the British Dental Association; they were all supporters of it, and some of them (notably the Chairman and the Hon. Sec., Mr. Canton) were workers in its ranks. He thought the Association filled a most important niche in the country. Until it was established, there were no means of reaching the vast number of practitioners throughout the country, and when the Act of Parliament was passed which created a Register for all dentists in the country, it was felt very important that some means should be devised by which the profession generally should be reached throughout the country. There had by force of circumstances been too long a period when so called outsiders were left to themselves; they were not in a position to take diplomas, and

distinctly felt themselves very much in the cold. This Association then, had done admirable service in going to such men without enquiring too minutely into antecedents. The only questions it asked by its bye-laws were, "Are you a recognised member of the profession; are you acting in an honourable way as a member of an honourable, scientific and artistic profession; do you really conduct your practice as a professional man; and are you anxious to add to the weight and strength of your calling? If so, we welcome you within our lines." That seemed to him to be the attitude of the British Dental Association to every dentist in the country. Wherever he had gone he had found that the influence of the Association had done an immense amount of good to a great number of men, by making them feel, when not acting, perhaps, as professional men, that they belonged to a profession, and it was time they should. He was sure that in Brighton the feeling had been very fairly and strongly expressed that it was very desirable that they should have a Southern Counties Branch. There was one point they should bear in mind, and that was that they were very representative, and were not working alone. They proposed after all to be only the limb of a greater tree, the parent Association—whose duty and pleasure it was to stimulate the growth of its offshoot. Judging from the correspondence he had received, there was no doubt that every place in the district would be glad to welcome the Southern Counties Branch. He had therefore great pleasure in moving "That this meeting of the members of the British Dental Association, residing in Hampshire, Kent, Surrey, and Sussex, approves of the establishment of a Southern Counties Branch of that Association, to include the aforesaid four Counties; and that the following gentlemen, agreeing to its formation, do constitute the said Southern Counties Branch, in accordance with byelaw 29 of the British Dental Association, and subject to the recognition of the representative Board of the British Dental Association."

Mr. WOOD seconded, and the motion was carried unanimously.

The meeting then considered the bye-laws which had been drawn up, and made several beneficial amendments.

The election of officers of the new society was proceeded with, Mr. S. L. Rymer being elected President; Mr. W. R. Wood, Vice-President; Mr. J. Dennant, Hon. Secretary; Mr. J. H. Redman, Hon. Treasurer; and Messrs. W. B. Bacon, M. L. Bell, C. H. Bromley, G. Henry, E. M. Tod, F. J. Vanderpant, J.

E. Welsh, J. H. Whatford, and J. C. Wheeler, to constitute the Council.

A date having been fixed for the first annual meeting of the Branch, unless otherwise arranged by the Council, the Hon. Secretary said it would be necessary to send a prospectus of the work of the Association to the dentists of the district. He then thanked those gentlemen who had come a long distance for their attendance that afternoon, and proposed a vote of thanks to the Chairman, which was seconded and carried.

The CHAIRMAN, in acknowledgment, thanked them for the way in which they had greeted him, and hoped the Association would succeed, and that every one present would live long enough to see it prosper.

The meeting then terminated.

Southern Counties Branch.

GENTLEMEN wishing to join the Southern Counties Branch, are requested to apply early to the Hon. Secretary, Mr. Dennant, 1, Sillwood Road, Brighton, for forms of application for membership, so that they may be elected in time for the proposed meeting of the Branch in July.

The Hon. Secretary will be glad to receive early intimation from those gentlemen who are willing to assist at that meeting, by reading papers or offering casual communications.

List of Members forming Southern Counties Branch.

Anderson, A. E., Maidstone.
Bacon, W. B., Tunbridge Wells.
Barton, W., Eastbourne.
Bell, M. L., Canterbury.
Bromley, C. H., Southampton.
Daish, W. G., Ryde.
Daish, W. H., Ryde.
Dennant, J., Brighton.
Foran, J. C., Eastbourne.
Gabell, A., Red Hill.
Harrison, W., Brighton.
Henry, G., Hastings.
Henry, M., Folkestone.
Hughes, M., Croydon.
Keeling, G. R., jun., Epsom.

Knott, E. H., Brighton.
Martin, J. H., Portsmouth.
Pedley, G., London Bridge.
Redman, J. H., Brighton.
Rymer, S. L., Croydon.
Tod, E. M., Brighton.
Tomes, J., Caterham Valley.
Vanderpant, F. J., Kingston-on-Thames.
Welsh, J. E., Brighton.
Whatford, J. H., Eastbourne.
Wood, W. R., Brighton.
Wood, W. R., jun., Brighton.
Wheeler, J. C., Southsea.

ORIGINAL COMMUNICATIONS.

A few Notes on some Irregular Dental Tissues.*

By A. A. MATTHEWS, L.D.S.

I PURPOSE to engage your attention for a few minutes with some of the features shown in one or two forms of irregular dental structures; and I have selected such cases, wherein the deformity has its origin during the developmental stage of their existence. It is very probable you may complain of the disconnected character of this paper, but I believe that is easily explained by the nature of the matter with which I have to deal, seeing there is so very little in common between the cases I will submit for your consideration.

The first section I would draw your attention to is that of gemination between a first upper molar and a supernumerary tooth. The supernumerary adjoins one side of the molar, and its root and one root of the molar coalesce, forming a hollow cylindrical root, the dentine of which is coated both inside and outside with cementum; the crowns of the two teeth also are blended together, but in such a manner that the individual teeth can be distinctly traced. The section made from this specimen is longitudinal, and has a direction through the body of the supernumerary and half into the crown of the molar, as far as the central depression formed by the converging cusps. A process of pulp extended from the main pulp cavity in the molar, across into the supernumerary and down the outermost portion of the round cylinder root. So a natural result of these circumstances will be, irregularity of the tissues, and, with regard to the enamel, its disposition is very remarkable.

There is the usual outside coating of enamel above the gum line, but besides this there is also a thick layer of enamel blocking the end of the large cylindrical root where it is connected with the body of the tooth, whereas all the remaining lining of this abnormal root is cementum, and must all have been contiguous to soft tissue when the tooth was in its socket. This portion of enamel is well formed and could be imagined an ordinary layer, as met with on

* Read at the Annual Meeting of the Midland Branch, held at Bradford, April 30th, 1886.

the buccal or labial surface of a bicuspid, but it is very imperfectly joined to the dentine, having a scalloped appearance where the two tissues unite. This enamel in such an unusual situation evidently belongs to the supernumerary, and in the complication of the structures during development, has become enveloped in the dentine, which forms the cylindrical root.

At the point of union on the masticating surface, between the supernumerary and molar, there is a deep depression, the floor of which is a bridge of enamel which assists in enclosing a space all about this neighbourhood; the dentine and enamel are very imperfectly formed, having many irregular spots intermixed, which are in all probability very large interglobular spaces.

There is just another point I will mention, and that is a particle of cementum in a very out of the way situation and altogether unaccountable; it lies on the margin of the section, which, if *in situ*, would approximate the heart of the specimen, but to speak more correctly, and as regards this section, it lies directly above the pulp chamber and underlying the radiating dentinal tubes.

The section I next wish to say a few words about is taken from an example of dilaceration in a permanent central incisor. This tooth has a well-formed normal root, and as far as the neck, there is nothing calling for special mention, but at this point the crown is carried backwards, so as to make the labial surface lie at right angles to the long axis of the tooth. Notwithstanding the biting edge of the tooth being in this unusual position, there are evident signs of wear from contact with the lower teeth, and, partly from this being the case, I am inclined to inquire if it is possible for the bite so to strike the forming upper incisor as to cause the deviation in its direction. Very often the lower incisors in development are far in advance of their upper antagonisers, and it is quite reasonable to suppose that the normal eruption of an upper incisor may become interrupted by contact with the lower incisor, striking it in such a manner as to prevent it cutting properly through the gum, and as it were bending it on its axis. To me this explanation seems less unlikely than attributing the condition of such a tooth to injury of an extraneous kind.

A longitudinal section of this dilacerated incisor, under the microscope, is most interesting at a point on the convex side, corresponding with the junction of enamel and cementum, where there is some disturbance shown in the arrangement of the tissues. This break in the uniformity of the structures consists of a dipping

in of the cementum into the dentine ; above this point the dentine is covered by enamel and below by cementum.

Evidently the crown has been bent over until the tissues gaped on the convex side, and this gaping has been filled in with cementum, and the dentinal tubes can be seen folding round this, whilst endeavouring to reach the enamel. On the concave side of the flexure, beyond a considerable curving of the dentinal tubes, there is no striking change takes place, but it might be remarked that the enamel at this point shows the beaded nature of the prisms in a marked degree.

Taking into account the amount of displacement of the crown on the root in this specimen, and attributing the displacement to injury and consequent suddenness, it is surprising there is not a more abrupt interruption in the course of the dentinal tubes and the tissues generally.

The next subject for consideration is an odontome which was extracted from its original possessor many years since, but, unfortunately, the history has not been completely preserved. It would have added immensely to the interest of the case, if a full account of the symptoms it occasioned, with the particulars of its growth, and the disturbance it gave rise to, which culminated in its removal, could be laid before you, but I will give the history as far as it is known.

The age of the gentleman from whom it was removed, would be about twenty-seven years. There was swelling in the left upper jaw, and on examination in the molar region, the appearance presented resembled that of a broken tooth buried in the gum, under which the hard substance could be felt with a probe. It was concluded the hidden body accounted for the swelling and pain which the patient experienced, so an incision was made over it and after some little difficulty the odontome was dislodged.

If you can imagine an ordinary good sized upper molar, fused into an irregular ovoid shape with something like a blunted root at one end, you will get some idea of the specimen. To come to the microscopical appearance, the section is taken through the centre of the long axis, and the first thing observed is the confusion of the tissues, as the enamel and dentine are considerably intermixed and these tissues constitute the mass, no cementum being present. Then the dentine is exceedingly interesting from the various kinds which are found ; besides finely tubed dentine, there is finely granular secondary dentine, and areolar dentine is very plainly

seen, and it is mainly dentine which forms the external margin, as the enamel comes to the outline in small portions only and in a few places. There are one or two places left for pulp tissues, but these are small; at the same time, judging from the amount of secondary dentine, the mass has been freely interspersed with channels of pulp, many of these tracts and circular areas of secondary dentine having dentinal tubes radiating from them. A peculiar feature in this section, and one which seems to be a favourite disposition on the part of odontomes of this class, is the formation of a series of pouches, which in this instance occupy nearly a central position, the more perfect examples having what appears to be fine granular dentine in the centre, then outside this, areolar dentine, surrounded by tubed dentine, which contains some irregular black spaces, and outside this again, a fringe of enamel.

In other positions there are areas of well formed tubular dentine, and tubes can also be seen passing over interglobular spaces, without suffering any interference.

From what I can learn cementum is generally absent, when the whole of the tooth substance is involved in the odontome, but is present in what Prof. Brocca describes as odontomes coronaires, and radiculaires, as if these abnormalities were due to something erratic in the definition of the investing tooth follicle with only a partial investment, when the odontomes are connected with the crown or root alone.

The last specimen I wish to speak of is from the class of supernumeraries, and the variety I have under consideration have slightly complicated crowns of a very ordinary type amongst this class; in these we find a crown having a deep central depression, and the biting edge ending in an uneven cluster of cusps, such teeth are by no means uncommon. In longitudinal section a very strange appearance is given from a normal single root, there stretches out a forked crown in two unequally sized portions, which are often the whole length of the crown, and the pulp cavity can sometimes be seen bifurcating at the level of the necks of the tooth and finding its way into both portions of the crown, but the small portions may be completely calcified.

The arrangement of the tubules in this part of the dentine is singularly pretty, as they branch outwards from the pulp cavity, or what remains of it, on their way to the enamel, and the enamel can be traced lining the open cavity in the crown, which, however, becomes considerably reduced in quantity at the deepest portion.

It would be very interesting to be able to account for this unusually deep folding of the enamel, which looks to me like a failure on the part of the enamel organ during development, to coalesce at the mouth of the cavity, so it has gone wandering down over the dentine, whereas if it had succeeded in uniting, the dentine would have filled in most of the space. But these supernumerary teeth have not the power of hereditary force to shape them after a decided pattern, so we might expect here to find a simple or at least specialised form of tooth, or even a failure in producing that, in other words it may be the result of weak development, and instead of a simple conate crown we get a crown having a deep irregular depression in the centre. It has occurred to me also that there is some analogy between this case, and what we not uncommonly find in imperfectly and weakly developed wisdom teeth and lateral incisors, where we have depression, the result of unsuccessful attempts on the part of the enamel, to perfect coalition. And, in fact, this reasoning might be carried still further, and the dipping in of the enamel resulting in depressions in supernumeraries and other teeth, or pouches in odontomes, may be all taken as evidences of weak development, such as we have seen in my specimens.

Gentlemen,—I must apologise for any crudeness of thought or construction, amidst the many shortcomings of this paper, and I beg you will accept my thanks for giving me a patient hearing.

HOSPITAL REPORTS AND CASES IN PRACTICE.

A Case of Antral Disease and Hæmorrhage from the superior Alveolar Artery.

NOTES OF A CLINICAL LECTURE DELIVERED

By JOSEPH ARKOVY, M.D., &c., Budapest.

Communicated by Dr. W. ROSINGER.

ARTERIAL hæmorrhage from the jaws is, in itself, so common as not to be worth mentioning, but this case derives its most special interest chiefly from the remarks of the physician who treated it.

The patient, A. G., a widow, aged 67, presented herself on the 20th May, 1883, she was not particularly well nourished and was pale, but still well preserved for her age.

The examination of the mouth.—The root of the right upper

central was necrosed, but not loose, the lateral was wanting, and the right canine forced out of its position towards the lingual aspect, sound, except one side of the crown. On the gums (palatal aspect) in the alveolar process, situated between the two above-mentioned teeth was a tumour two and a-half centimetres in depth, between the lips and the teeth was a similar tumour pointing upwards. Between both swellings we obtained a distinct communicating fluctuation. The fluctuation of the tumour on the gums passed all along the nasal process of the maxilla, and up to the highest point of the canine fossa, but pressure on this point would not force any pus into the middle meatus of the nose.

Diagnosis.—Necrosis and perforation of the alveolar process in the region of the right intermaxillary bone, abscess of the alveolus of the upper right canine, periosteal abscess communicating with the antrum of Highmore; dropsy of the maxillary sinus.

Treatment.—Extraction of the central incisor and canine, incision of the abscess one centimetre above the free edge of the gums, at the very apex of the canine root, marking the highest point of the alveolar abscess. The root of the central was devoid of periosteum and necrosed. The pus and bloody serum which exuded on slight pressure measured about fifty grammes.

After the operation, however, continued hæmorrhage followed as a result of the incision, to stop which we applied cold water. After half-an-hour the continuation of the hæmorrhage looked suspicious, and therefore the patient was again examined, and we found the hæmorrhage was arterial. The application of a pellet of cotton wool in the wound and pressure applied for about twenty minutes, arrested the hæmorrhage by the formation of a clot.

The opening formed by the operation now filled again with blood, and presented the same aspect as before the operation; in consequence of this the patient was dismissed.

After a week's time she came again to express her thanks; another examination showed us that the abscess which previously fluctuated had disappeared, and the wound was healed. The alveolar process was slightly moveable on pressure, and crepitation could be distinguished. If the finger was placed against the part of the palate corresponding to the nasal process, on the former site of the abscess a loss of substance equal to one and a-half cubic centimetres could be detected, which easily admitted the finger, the soft parts alone giving any resistance, all the bony alveolus having disappeared.

Dr. Arkövy made the following remarks on the case from his own diagnostic standpoint.

The swelling of the hard part of the gums was scarcely larger than might have been expected from an ordinary alveolar abscess, but its wide extension, as well as the nature of the fluid which fluctuated throughout the alveolus up to the nasal bone were occurrences which allow of several explanations. Such symptoms might either be due to aneurism, multilocular cyst, empyema, or catarrhal dropsy of the antrum of Highmore.

We could exclude the supposition of aneurism, as on the thin outspread mucous membrane no pulsation could be felt, besides it was scarcely to be expected that a blood vessel of such a small calibre as the alveolar artery could be enlarged to such an extent.

Cysts of the jaw may sometimes occur at an advanced age, but as the teeth of our patient were extracted, as the sockets proved, there could not be any question of cysts caused by retained tooth germs, usually the cause of this disease, although one could not absolutely exclude the idea of its being caused by a supernumerary tooth-germ. The exclusion of a simple serous cyst was obvious, seeing that it was impossible for a cyst to point labially and towards the palate through necrosed bone. There remains, therefore, nothing in question but empyema or catarrhal dropsy of the antrum of Highmore; there was no reason for their exclusion, but several points existed rendering their presence most probable. The fact that the side of the socket of the canine tooth was gone, that the fluctuation was still present, led us to suppose that the antrum of Highmore was implicated. It now remains for us to choose between empyema and the serum derived from catarrhal dropsy.

Empyema is always derived from acute causes, and is marked by pronounced symptoms which are pain, fever, and swelling of the face towards the alæ of the nose, causing at the same time a general tension and pressure; there may be inflammation of septic origin originating from the roots of the teeth and implicating the cavity of the antrum. But in our case all these symptoms were absent; besides this, the patient has noticed the swelling for a full month, and it is very probable that the tumour, steadily increasing, grew forwards, therefore one could with probability exclude empyema.

Dropsy of the maxillary sinus, arising from catarrhal inflammation of the mucous membrane, as was reported by Wedl (*Patho-*

logie der Deutsche Vierteljahrschrift für Zahnheilkunde, Zahne, F. Malon ; German Quarterly Journal of Dentistry, April, 1875) and others, would, if we excluded the above-mentioned diseases, be a probable explanation.

Such symptoms were, absence of pain, slowly increasing growth, and symptoms diametrically opposed to those of empyema. It must be again mentioned, as we have already stated, that the crown of the canine was displaced towards the palate, and that in itself, was an important diagnostic sign of antral swelling ; under such circumstances the roots are displaced towards the labial, the crowns towards the palatal aspect (the pathological collection of the institute possesses a model of a case, occurring at the Middlesex Hospital, which is very characteristic of these changes in position).

There is hardly room for doubt that the apical abscess of the distant canine root was the cause of the catarrh of the antrum. Proof of this is found in the long granulation strings which certainly reached into the inside of the antrum. Banure ("Lehrbuch der Juhnheilkmot," page 365), it is true, denies that any but the great masticating teeth can cause antral inflammation ; but in this case there were no masticating teeth in the upper jaw at all. With respect to the other point in our case, viz., the arterial hæmorrhage, two views are possible—that during the incision, either the anterior palatine, or the superior alveolar artery had been bleeding ; what gravitates against the first opinion is that the line of the incision "lege artis" was made one centimetre above the margin of the alveolar process ; on the other hand, in favour of the second view, the direction of the blood stream which pointed between the two edges of the wound, a little forward, with a direction to the left ; while if we accept the first view the blood ought to have taken a nearly horizontal and straight direction. The sudden appearance of the hæmorrhage is accounted for by the alveolar artery, which was passing through the pus of the tumour, suddenly bursting when the pressure of the pus was removed from its outer coat.

Six weeks after the operation, on the 1st July, the patient again presented herself to the clinic, when she was found to be suffering from empyema of the maxillary sinus, caused as a secondary affection through caries of jaw-bone.

(We are indebted to Mr. Herbert Williams, student at the

Hospital, for having procured for us the translation of the above case, which, involving as it did, the unravelling of a most unusually difficult piece of German technical writing, reflects the highest credit upon the patience and erudition of the translator.—
Ed. J.B.D.A.)

A Case of Abnormal Position of First Temporary Molar.

BY H. LLOYD-WILLIAMS, M.R.C.S., L.D.S.

HOUSE SURGEON TO THE LONDON DENTAL HOSPITAL.

A PATIENT, æt. twenty-four, came under the care of Mr. Underwood on April 7th, complaining of something growing in the floor of her mouth.

She directed attention to the right side of the floor of the mouth opposite the bicuspid, and here a bluish-black substance was seen which seemed to have worked through the mucous membrane at the junction of the *diaphragma oris* with the jaw, and could only be seen when the floor of the mouth was depressed. On examining with a probe, enamel was felt and the crown of a tooth traced. The second bicuspid on that side was absent, and the patient declared it had not been extracted.

The patient, who had grown anxious about the case, stated that she had noticed it for a month, and that it seemed to be growing.

Diagnosis.—It was decided that the cause of the trouble was a tooth, and taking into consideration the age of the patient and the absence of the second bicuspid, that the tooth would probably be the second bicuspid.

Treatment.—Extraction. An anæsthetic was administered by Dr. Hewitt, and the tooth extracted with a pair of fine upper bayonet forceps; it came away so easily that some fear was entertained lest the crown had been broken off. But when examined, the tooth was found to consist merely of the crown of a first temporary molar, the roots having been completely absorbed.

It is of considerable interest to note (a) the position the temporary molar occupied, which is certainly difficult to account for. (b) The patient seemed to have had no cognizance of its existence in any way until a month ago. (c) The absorption of the roots and the retention of the tooth to such an age.

There was no evidence of the appearance of the second bicuspid.

A Case of Trismus of Long Standing.

By E. G. BETTS, M.R.C.S., L.D.S., L.S.A.

J. S. AGED 35, a gardener by occupation, was sent by his mistress to consult me last September concerning a long-standing inability to open the jaws, it being feared that he had malignant disease. He was pale and emaciated in appearance.

About a year before he had suffered much from toothache in the region of the right upper bicuspid, and had both the teeth (which were sound) removed by the local medical man, but without any alleviation. The pain, however, changed in character a little later, and he noticed difficulty in opening his mouth, the effort to do so being accompanied by pain. To such an extent was this so, that he said he had half-starved, and in consequence had taken to excessive smoking, which was his only comfort.

On examining the mouth, I found the jaws would only part about half-an-inch, and consequently I had some difficulty in obtaining a view of the teeth at the back, but presently found a right lower wisdom carious on its distal surface, and, as far as I could make out, with a dead pulp. This I had not much difficulty in turning out with the elevator, and the patient expressed himself as feeling relieved at the time, and that he was sure I had discovered the cause of his trouble. The result proved this to be the case, as I heard from his mistress within a week that he had completely recovered and was able to eat a raw apple—the height of his ambition.

On splitting open the tooth, I found the pulp chamber filled with semi-fluid putrescent matter, with the exception of about one-eighth of an inch of the fang, which contained a morsel of nerve, which looked as if it might have been alive at time of extraction.

REPORTS OF SOCIETIES AND OTHER MEETINGS.**The Odontological Society of Great Britain.**

THE usual monthly meeting of this Society was held at 40, Leicester Square, on Monday the 3rd inst., Mr. T. CHARTERS WHITE, President, in the chair.

Mr. WILLOUGHBY WEISS showed a specimen of hare-lip in a lamb, which had been sent as a donation to the Museum by Mr. J. T. Fripp, of Willesden.

Mr. BETTS showed models of the upper and lower jaws of a boy

aged five and a-half years, remarkable for their extreme smallness. He had never had any upper incisors, whilst of the corresponding teeth in the lower jaw three had fallen out at the age of two and a-half, and the fourth, though still in place, was loose.

Mr. J. S. TURNER showed an upper left lateral, which he had extracted from the mouth of a boy aged twelve and a-half years. His teeth were large but not crowded, and appeared perfectly sound. He had, however, suffered for some time from pain in the upper teeth, not at all localised, and the origin of which was very obscure. Having in mind a case which had been reported to the Society not long before by Mr. White, of Norwich, Mr. Turner extracted the upper left lateral and found the labial portion of the root absorbed to such an extent as to lay open the canal. The mischief had been caused by the pressure of the canine which was coming down in front of the lateral, though there was nothing to indicate this until after the extraction of the last named tooth when the presence of the canine could be detected with a probe. He thought this showed the benefit which might be gained by attending the Society's meetings.

Mr. NEWLAND PEDLEY showed a patient on whom he had operated for the cure of a large cyst of the upper jaw, with very satisfactory results. He was a man, aged forty-two, who had suffered for four years from a gradually increasing swelling of the left side of the face, which had been pronounced malignant by a medical practitioner whom he had consulted. It was as large as a hen's egg, extended from the alveolar process of the upper jaw to the lower margin of the orbit and was very tense and hard, though some evidence of fluctuation could be obtained within the mouth in the buccal sulcus. There had never been any discharge from the nose, or any symptoms of inflammation of the antrum. Mr. Pedley came to the conclusion that it was a simple cyst, and at once made a free opening into it along the alveolar margin; a quantity of semi-gelatinous matter escaped. The cavity was afterwards syringed out daily with antiseptic lotions, and at the end of three weeks the deformity had almost entirely disappeared.

Mr. CHAS. TOMES related the following case of replantation. A boy had an upper lateral and canine knocked out at school. Nothing was done at the time, but on his mother hearing of it she directed that he should come to London for the purpose of having the teeth replanted, and he accordingly came to Mr. Tomes five days after the accident. Mr. Tomes felt very doubtful of success,

but determined to make the experiment. He therefore removed the pulps, filled the pulp chambers and canals with gutta percha, and then tried to replace the teeth, but the sockets had become so much contracted that this was found to be impossible. He found, however, that the lateral would go into the socket of the canine, and there it was left, retained in place by a splint of gutta percha. The tooth soon became firm, and when last seen, six weeks after the removal of the splint, the gum was slightly retracted, but there were no signs of irritation about the tooth, and the boy did not spare it.

Mr. Tomes also gave an account of an experiment he had made on himself with cocaine. Being troubled with a tender tooth, he thought it would be a good opportunity for trying the effect of the new remedy. He accordingly dissolved a grain of the hydrochlorate of cocaine in a small quantity of water, and injected the solution at the reflexion of the mucous membrane of the cheek and lower jaw, just below the painful tooth. The result was an area of anæsthesia about as large as a five-shilling piece, but the sensibility of the tooth was *not* abolished. And not only did he not get the effect he hoped for, but he got some effects which he had not expected, for as he was proceeding with some writing he began to feel a most unpleasant sensation of giddiness and nausea, his hands became cold, and on getting up to pour out some brandy, there was some unsteadiness in walking. These symptoms soon abated, but did not entirely pass off for two or three hours. He thought it well to call attention to the possibility of such effects being produced even by a dose of one grain, since he had seen the injection of a grain and a half and two grains recommended, and, judging from his own experience, it seemed to him that these doses might not be altogether safe in all cases.

Mr. F. N. PEDLEY said he was in the habit of injecting cocaine daily, and had met with no bad effects as yet. In the large majority of cases the patients said they felt no pain from the subsequent extraction.

Mr. BOYD WALLIS said he had used it rather extensively, and in the majority of cases with satisfactory results. He found it answer best for front teeth, since in the case of back teeth it was more difficult to inject the solution.

Mr. J. S. TURNER remarked that it was not easy to eliminate the mental effect in such cases. In order to obtain trustworthy

results, the patient should not be informed of the purpose for which the application was intended. The most surprising results had been obtained from very simple means by the help of the imagination of the patient.

Mr. REDMAN presented to the museum several specimens of abnormalities, including a wisdom tooth with roots bent at right angles, three-fanged lower molars, &c., and read notes of an interesting case of necrosis of the lower jaw. A man, aged thirty, came to him with a tense hard swelling on the left side of the face extending well down the neck. He complained of severe, deep-seated pain, difficulty in moving the jaw, and bad taste in the mouth from the constant presence of pus. He had been for some considerable time under the care of a medical practitioner, who had ordered various outward applications but had never examined the mouth, although the swelling had been steadily increasing. On examination, Mr. Redman found that all the teeth were sound except the lower first molar, which was badly decayed and the pulp dead. An alveolar abscess had resulted and the pus had infiltrated into the spongy part of the bone, causing necrosis of the whole of that side, extending from the ascending ramus to the symphysis. The teeth from the wisdom tooth to the central incisor were so loose that they could be removed with the fingers, and there were several sinuses discharging pus into the mouth. Mr. Redman removed the teeth and then the necrosed bone, which came away in three pieces. The patient made a good recovery and but little disfigurement resulted. The case showed what serious results might follow from what was usually considered a very trifling ailment, and the importance of a careful examination of the mouth in all cases of pain and swelling in that region.

Mr. STORER BENNETT then exhibited and described some of the principal recent additions to the Comparative Anatomy Section of the Society's Museum. These included the skull of a dugong, of the African wart-hog, of a young hippopotamus, and several interesting specimens of comparative pathology, most of which had been presented to the Society by Mr. Bland Sutton, to whom Mr. Bennett paid some well deserved compliments. The paper though of great interest in connection with the specimens, was necessarily of a somewhat discursive character, and one of which it would be difficult to give a satisfactory abstract. At its conclusion Mr. Bennett answered several questions which were put to him, and the President announced that at the next meeting (June

7th), a paper would be read by Mr. J. W. Groves, F.R.M.S., on "Practical Histology in its relation to Odontology." The meeting then terminated.

Presentation to Mr. Hepburn at Edinburgh.

ON Friday evening, the 16th ultimo, a deputation of gentlemen consisting of Messrs. W. Bowman Macleod, Robert Reid, Andrew Wilson, Matthew Finlayson, Alexander Cormack, and J. S. Amoores, as representing the subscribers, waited upon Mr. David Hepburn, L.D.S.Eng., and presented him with the following address, accompanied with an Agreement of Annuity entered into with the Caledonian Insurance Company for the sum of £30 per annum:—

PRESENTED TO MR. DAVID HEPBURN,

Sixteenth April, 1886,

ALONG WITH BOND OF ANNUITY TO THE ANNUAL VALUE OF THIRTY POUNDS STERLING.

The accompanying Testimonial is presented to Mr. David Hepburn along with this Address by a number of his friends and Professional brethren, as a mark of their esteem for him, and an acknowledgment of their appreciation of his efforts in promoting an increased social amity among the members of the Dental Profession, more especially in advancing the development of the Odonto-Chirurgical Society of Edinburgh, as well as in other labours of a similar kind.

And in making such presentation they would also desire to record their profound sympathy in the affliction sustained by him in the loss of his eye-sight; while they would pray that he may be long spared to enjoy the companionship of his friends, and the contemplation of a life devoted to the elevation of his profession and the good of his fellowmen.

Signed on behalf of the Committee and Subscribers,

W. BOWMAN MACLEOD,

President O.C.S.

Dr. Smith, Edinburgh.

Dr. Reid, Edinburgh.

Mr. Macgregor, Edinburgh.

Mr. A. Wilson, Edinburgh.

Mr. Biggs, Glasgow.

Mr. Campbell, *Hon. Sec.*, Dundee.

Subscribers.

Mr. J. S. Amoores, Edinburgh.

Professor Annandale, Edinburgh.

Messrs. Ash & Sons, London.

Mr. W. J. A. Baker, Dublin.

Mr. John A. Biggs, Glasgow.

Mr. J. R. Brownlie, Glasgow.

Mr. D. R. Cameron, Glasgow.

Misses McCulloch, Edinburgh.

Mr. McCulloch, Edinburgh.

Mr. Malcolm McGregor, Edinburgh.

Mr. John Milne, London.

Miss Nisbet, Edinburgh.

Mr. John O'Duffy, Dublin.

Dr. Orphoot, Edinburgh.

Mr. T. R. Cameron, Paisley.	Mr. L. J. Platt, Stirling.
Mr. Walter Campbell, Dundee.	Mr. Rees Price, Glasgow.
Mr. W. F. Canton, London.	Mr. John Raeburn, Edinburgh.
Mr. James Cooper, Edinburgh.	Mr. Wm. Raeburn, Edinburgh.
Mr. A. Cormack, Edinburgh.	Dr. Reid, Edinburgh.
Mr. D. Cormack, London.	Mr. R. Peel, Ritchie, Edinburgh.
Mr. E. F. Cox, Jersey.	Mr. T. A. Rogers, London.
Mr. P. Crombie, Aberdeen.	Sir Edwin Saunders, London.
Mr. J. T. Cunningham, Edinburgh.	Dr. Smith, Edinburgh.
Mr. Durward, Edinburgh.	Mr. John Stewart, Perth.
Mr. W. Finlay, Edinburgh.	Mr. Sutherland, Glasgow.
Mr. M. Finlayson, Edinburgh.	Mr. George Syme, Dundee.
A Friend, Edinburgh.	Mr. E. M. Todd, Brighton.
A Friend, Edinburgh.	Mr. John Tomes, England.
A Friend, Mr. Thos. Underwood, London.	Mr. W. J. Smith Turner, London.
Mr. Gregson, London.	Dr. Joseph Walker, London.
Mr. Robert Hepburn, London.	Mr. P. Walker, Dundee.
Mr. Alfred Hill, London.	Mr. Jas. Wallace, Glasgow.
Dr. Hogue, Edinburgh.	Mr. C. J. B. Wallis, London.
Mr. S. J. Hutcheson, London.	Mr. G. B. Watson, Edinburgh.
Mr. Imlach, Edinburgh.	Mr. Richard White, Norwich.
Mr. J. M. Lipscomb, Kilmarnock.	Mr. Thos. C. White, London.
Mr. Jas. Macintosh, Edinburgh.	Dr. Williamson, Aberdeen.
Mr. W. B. Macleod, Edinburgh.	Mr. William Williamson, Aberdeen.
Mrs. Matheson, Edinburgh.	Mr. A. Wilson, Edinburgh.
Mr. Chas. Mathew, Edinburgh.	Dr. Wood, Dumfries.
Mr. J. M. McCash, Glasgow.	Mr. W. S. Woodburn, Glasgow.
	Mr. J. R. Young, Edinburgh.

Mr. Bowman Macleod, President of the Odonto-Chirurgical Society, in making the presentation, desired Mr. Hepburn's acceptance of the Bond of Annuity as a tangible though small token of the esteem and respect of friends and professional brethren who appreciated his services in the cause of professional progression, and who sympathised most deeply with him in the dispensation of Providence which had closed his professional career while yet he was in full vigour. They hoped that, though forced to retire from the more active duties of life, he would yet be spared in the enjoyment of good bodily and mental health for many a year to come, and trusted that the possession of the Bond would carry with it the annuitant's proverbial immortality. To his family the address might now, and when he was gone, be an ever-present remembrance that their father was a man beloved by his friends and honoured and respected by his fellow-professionals.

Mr. Hepburn confessed himself overcome by this expression of his friends' regard, which he honestly felt he had done so little to merit and could now do less to justify. He could not, however,

refuse to accept, and that most gratefully, such a spontaneous and handsome expression of the estimation in which his services to the profession were held—a profession in which he had laboured for fifty years—and would cherish the memory of this night as one of the brightest spots in his existence. Though debarred by loss of sight from continuing the practice of his profession, he was thankful to say that he was still in full sympathy with it and with the world at large, and still capable of thoroughly enjoying the pleasant associations of a large circle of staunch friends, amongst whom he was proud to number so many professional brethren.

The deputation then wished Mr. Hepburn many long and happy days in the bosom of his family.

Letters of apology and good wishes were received from Dr. Smith, Mr. Campbell (Dundee), Mr. MacGregor, Mr. Imlach, Mr. Tomes, sen., Mr. J. Smith Turner, Mr. Underwood, Mr. Gregson, &c., &c.

MINOR NOTICES AND CRITICAL ABSTRACTS.

Researches on the Physical Properties and Chemical Composition of the Teeth, and on the Relationship between their Resisting Powers in Health and Disease, with the Modifications of Nutrition.

BY M. LE Dr. C. V. GALIPPE.

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IN pursuing his investigations, M. Galippe quotes from M. Magitot, that, out of 10,000 carious teeth 1,310 were second bicuspid; of these 810 were upper and 500 lower; 670 belonged to the right side, and 640 to the left. The density of the second upper bicuspid, according to M. Galippe, equals 2.229; that of the second lower bicuspid 2.206; that of the right second bicuspid 2.231; that of the left 2.214.

Lateral Incisors.—Out of 10,000 carious teeth, 777 were lateral incisors; 747 of them upper teeth, and 30 lower teeth; 389 of the right side against 388 of the left.

The mean density of the upper lateral incisors = 2.1411

” ” ” lower ” ” = 1.385

” ” ” right ” ” = 2.139

” ” ” left ” ” = 2.136

Central Incisors.—M. Magitot figures 642 central incisors out

of 10,000 carious teeth ; 612 upper and 30 lower ; 324 on the right side and 318 on the left. M. Galippe finds the densities as follows :—

In the upper jaw	...	...	...	...	2.148
In the lower jaw	...	...	...	...	2.132
On the right side	...	...	...	...	2.141
On the left side	...	...	...	...	2.128

M. Galippe observes that M. Magitot's figures do not confirm the general law that he has suggested as far as the right and left sides are concerned, except to a very small degree.

Canines.—Out of 10,000 carious teeth, 515 were canines ; of these 445 were upper and 70 lower ; 218 belonged to the right side, 297 to the left.

Mean upper density	=	2.173
„ lower „	=	2.128
„ right „	=	2.158
„ left „	=	2.131

Wisdom teeth.—Out of 10,000 carious teeth, M. Magitot finds 360 wisdom teeth ; 220 upper, 140 lower ; 160 right and 200 left. M. Galippe is unable to record any statement with regard to the density of these teeth, owing to their frequent absence from the mouths he has examined.

Table showing the distribution of dental caries among the milk teeth, according to M. Magitot's figures (out of 1,000 cases) :—

First molars	342—upper	124 ; right	176
		lower	208 ; left 156
Second molars	261—upper	93 ; right	116
		lower	168 ; left 145
Lateral incisors	180—upper	152 ; right	93
		lower	28 ; left 87
Central incisors	140—upper	123 ; right	72
		lower	17 ; left 68
Canines	... 87—upper	51 ; right	38
		lower	36 ; left 49
General total for the upper jaw	...		543
„ „ lower „	...		457
„ „ right side	...		495
„ „ left „	...		505

A glance at this table shows that Mr. Magitot's results conform to the general law, seeing that the teeth are more subject to caries in the upper than in the lower jaw, and on the left side than

on the right. M. Galippe's opportunities for the examination of infants' mouths have not been sufficient to satisfy him. Nevertheless he prints his figures :

First molars, 332 in 1,000.

Upper 124—	mean density =	1.991
Lower 208—	„ „ =	1.997
Right 176—	„ „ =	1.998
Left 156—	„ „ =	1.986

Second molars, 261 in 1,000.

Upper 93—	mean density =	1.948
Lower 168—	„ „ =	2.041
Right 118—	„ „ =	1.989
Left 145—	„ „ =	2.001

Lateral incisors, 180 in 1,000.

Upper 152—	mean density =	1.924
Lower 28—	„ „ =	1.954
Right 93—	„ „ =	1.929
Left 87—	„ „ =	1.941

Central incisors, 140 in 1,000.

Upper, 123—	mean density =	1.900
Lower 17—	„ „ =	1.952
Right 72—	„ „ =	1.937
Left 68—	„ „ =	1.914

Canines, 87 in 1,000.

Upper 51—	mean density =	1.964
Lower 36—	„ „ =	1.879
Right 38—	„ „ =	1.940
Left 49—	„ „ =	1.902

Thus, the canines which are the most persistent of the milk teeth, according to these figures conform to the general law.

In chapter VI., M. Galippe discusses the relations that exist between the chemical composition and nutrition of the osseous system and of the teeth. He refers with well-merited contempt to the old-fashioned notion that as soon as a tooth is erupted it is no more affected by the physiological changes that affect the rest of the organism, whether those of nutrition or disease. To this error he traces the long-standing neglect from which the dental science has suffered, and from which he hopes it has now been rescued. It is undeniable that the physical and chemical composition of bone and that of teeth have much in common, and it follows that they share a community of patho-

logical and physiological liabilities. In almost all affections of the osseous system, the bones lose their fixed salts more quickly than their organic elements. Thus, at a certain stage, they contain more organic than mineral component parts, Marchand, Lehman, Ragsky, and Schlossberger have borne out this observation. Dr. Landouzy's observation upon the part played by acid and alkaline reactions in the economy, have been already noticed. M. Galippe adds to these the following observation : Heitzmann, by submitting animals, dogs and cats, to a normal régime with a constant addition of lactic acid, was able to produce artificially rachitis and osteo-malacia. According to Gorup-Besanez the dental pulp and the bones of very young animals contain both *lécithine* and a calcareous combination, soluble both in alcohol and ether. The *lécithine* when acted upon by water, changes into phosphoglyceric and phosphoric acid.

Diakonow concluded from these facts that the phosphate of calcium in bones must result in part from the decomposition of the *lécithine*. According to A. Gautier the following is the manner in which the bony tissues break up : the earthy salts dissolve either into the chlorides or the other alkaline salts of the blood, or in the slightly acid fluid which, according to Recklinghausen, absorbs the deeper layer of the bone ; or, again, in the condition of complex organic combinations ; they are incessantly poured out into the intestines and eliminated with the excretions. If the phenomena of nutrition and waste of the osseous and dental systems have not yet undergone a thorough course of physiological and chemical experimentation, still there is no room to doubt that there is a very strict analogy between the two. Clinical experience teaches us that the causes which disturb the course of the development of the osseous system affect equally the dental system, and that the latter is the more vulnerable of the two. Whenever there is an excess of phosphates in the urine, whether it be due to rachitis, tuberculosis, or diabetes, the teeth lose phosphoric acid and mineral elements. The vulnerability of the teeth corresponds to the fragility of the bones. The result of M. Galippe's observations and analyses shows that dental caries always coincides with a diminution in calcareous salts, that is to say, with a lowering of density which precedes the appearance of caries. Caries is most frequent in adolescence at the growing age, and bears witness to a poor supply of the inorganic elements that are necessary to the proper development of the osseous system. In a

general way, seeing that all the reserves are kept for an emergency when nutrition may be retarded, we might say that our alimentation, too rich in nitrogenous substances, is altogether insufficient in inorganic materials. It is mostly in growing children that this poverty of inorganic elements is observable—a fact, the importance of which should not be overlooked by physiologists and physicians. Certain authors, however, and among them Gorup-Besanez, appeared to doubt the influence of the form of nutriment upon the relative richness of the bones in mineral elements. But M. Galippe does not consider their arguments as conclusive. While he confesses that, in certain pathological conditions, assimilation does not take place or does so in an insufficient manner, and that there are organisms that starve in the midst of an abundance of mineral and nitrogenous elements, still it is an incontestable fact that if an organism during its evolution is deprived of mineral elements, it cannot form its dental any more than its osseous system in a normal fashion. Otherwise we should have to admit that the organism has the power of forming phosphoric acid, lime and magnesia, out of elements that contain none of these things, which is an obvious absurdity. It has now been shown that during the period of bone development up to a certain age, the bones become more and more rich in mineral elements, and that the resisting power of bone is in exact ratio to the richness of its supply of earthy salts. These two propositions, M. Galippe has verified in the case of the teeth. Thus we see that the relative density of the milk and permanent teeth and their chemical composition bear out the analogy between the bony and dental systems.

According to Sampson's researches on the rearing of animals, when the development is forced by a special and abundant alimentation, the bones are more richly supplied with mineral matter, and are of a greater density than normal, as shown by the following analysis.

Femur (forced)—Mineral matter	...	...	...	69.07
Density	...	...	...	1.34
Femur (normal)—Mineral matter	...	...	...	61.04
Density	...	...	...	1.27

When we see diseases such as we have mentioned, affecting so directly the composition of the bones, and at the same time observe the reparative influence of certain medicaments, of a wise system of nutriment and of all the conditions which exercise an

exciting action on nutrition, it is difficult to deny that alimentation has a direct influence on the development both of the bony and of the dental system, and it is a legitimate conclusion that the causes which influence the one, influence the other in an equal degree.

Abstracts of the Erasmus Wilson Lectures on Evolution in Pathology.

By J. BLAND SUTTON, F.R.C.S.

ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL, AND LECTURER ON
COMPARATIVE ANATOMY.

(Continued from page 243.)

Lecture II.—The Inflammatory Process.

INFLAMMATION, when viewed in the broadest possible light, may be defined as the method by which an organism attempts to render inert, noxious elements introduced from without, or arising within it.

Noxious elements capable of bringing about the phenomena peculiar to inflammation may be denominated irritants. Some of them are very coarse, others are peculiarly subtle, often eluding detection. The objective signs of the inflammatory process are so well-known, that it is needless to repeat them. The redness and swelling, as Galen knew, are the results of increased afflux of blood and exudation of serum, but the determining cause of the afflux has taxed the ingenuity of pathologists. It remained for the ingenuity of Cohnheim to devise experiments whereby the process could be objectively studied under the microscope.

From direct observation carried out on the tongue and web of the foot of a frog, the tale of a tadpole, fins of fish, and mesentery of a mammal, we have discovered the large part played in the inflammatory process by the white blood-corpuscles. These experiments teach that, in vertebrata, the most important feature in this process is the vascular disturbance, a result, it may for the present be said, of irritation. In the invertebrata, where many of the phenomena of cell-life may be studied with tolerable ease, the important functions played by active motile cells can be observed.

So far as inflammation is concerned, there are three points to which it is necessary to draw attention: firstly, the capacity exhibited by certain cells of effecting a change of place and form; secondly, their power of taking into their interior various sub-

stances with which they may come into contact ; and, lastly, the property which they possess of decomposing organic material when in their interior or in contact with their protoplasm ; this is termed intracellular digestion.

The inherent property possessed in many instances by protoplasm, of moving with a rapidity perceptible with the aid of a microscope, is an acknowledged fact in biology. These movements may be produced by stimuli. The discovery by Wharton Jones, in 1846, that the leucocytes of human blood possessed this property, was a most important step. The capacity of the leucocytes to change their position forms one of the commonest of demonstrations in the physiological laboratory.

In 1862, Haeckel showed that when a *Tethys*, a naked (shell-less) mollusk, was injected with indigo, the granules were taken up by the blood-corpuscles, and he further showed the occurrence of similar phenomena in the blood of various invertebrata. It was then discovered that the cells of the blood of man possess similar properties ; and this enabled Cohnheim to demonstrate, beyond question, that the migratory cells, seen in the cornea when inflamed, were directly derived from the blood.

It now becomes very essential in respect to inflammation to inquire concerning the fate of the material thus ingested by cells. When an amœba takes into its interior a green coloured plant, the ingested material gradually breaks up, loses its green colour, and finally disappears. The amœba is thus capable of taking food into its interior, and of making it part of itself, a process conveniently termed nutrition, and the outcome of the process of digestion. When the process is carried on in a cell of this kind, it is spoken of as intracellular digestion.

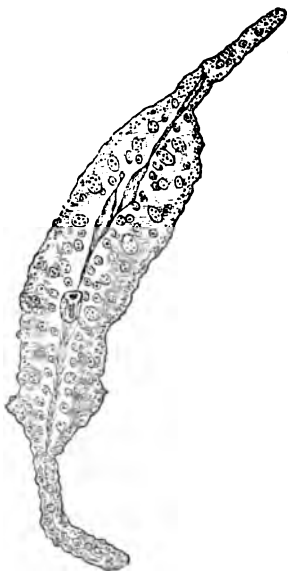
Metschnikoff, by using powdered carmine, was able to watch the inception of the granules by the endoderm cells. In one case, that of *Mesostomum Ehrenbergii*, that turbellarian refused to take the carmine, but Metschnikoff fed a *Nais* with the same pigment, and induced a *Mesostomum* to eat the *Nais* ; the examination showed the presence of carmine in the digestive cells of the turbellarian. Mr. Jeffrey Parker, in a communication to the Royal Society, on the histology of *Hydra fusca* (1880), showed that the activity of the cells of the endoderm had not been sufficiently noted, for, in some cases, by means of their pseudopodia, the endodermic cells could actually obliterate the digestive case. The endodermic cells carried on the process of digestion ; indeed, he

found in their interior the partially disintegrated bodies of entomostraca. Lankester observed intercellular digestion in the very transparent fresh water medusæ discovered in the lily-tanks of the Botanical Gardens in 1880.

Metschnikoff found that human blood-corpuscles, taken up by the mesoderm cells of *Bipinnaria* became completely absorbed. Milk-globules shared the same fate, and, when taken up by the wandering cells, broke up into small granules, and diffused themselves throughout the cell-substance. The following experiment was devised to show that the cells did not ingest everything indiscriminately. On injecting into a naked (shell-less) mollusk, *Phyllirhœ*, some living ova of a sea-urchin, it was found that neither young ovarian cells, nor ripe ova, which had extruded polar globules, were eaten by the mesodermic cells; indeed, they seemed to live much longer than when placed simply in sea-water; whilst in the tissues of *Phyllirhœ* they could be fertilised, segmentation and a normal blastopore being produced. When spermatozoa of the sea-urchin were introduced, they were quickly surrounded and eaten by the mesodermic cells.

Observations on the necrotic organs of several invertebrates have shown that it is the function of mesodermic cells to devour the dying elements of such organs. If fluids containing bacteria be injected beneath the skin of *Bipinnaria* and others, or if they develop spontaneously in the wounds of such animals, they will soon be found within the substance of many amœboid cells. In many cases the bacteria lose their motility, and become so delicate as scarcely to be visible. In *Botryllus*, an ascidian, Metschnikoff has found a spirochæte closely resembling the *S. Obermayeri* of relapsing fever, and a small micro-organism like the lepra-bacillus. In both cases they were pursued, ingested, and absorbed by the mesodermic cells, some of which perished in the attempt, and were, to all appearance, dead, with long bacterial filaments projecting from them. The same process may be seen in the blood of vertebrates, where, in bacterial affections, such as anthrax, the bacteria are taken up by the leucocytes. This property of digestion possessed by cells is not merely used for nutritive purposes, but is also utilised for removing larval organs, and to protect the organism from harmful bodies. It is necessary to remember that two or more amœboid cells may fuse together, so as to form a larger mass of protoplasm by their confluence. Protoplasmic masses formed in this way are termed plasmodia. Metschnikoff

has watched their formation, and regards them as equivalent to giant-cells; in all cases in invertebrates they have arisen around foreign bodies, and always by fusion of separate cells. Giant-cells in the higher vertebrata very probably arise from the fusion of leucocytes. In 1870, Dr. Caton published, in the *Journal of Anatomy and Physiology*, "A Contribution to the Theory of Cell-Migration," pointing out that this process might be said to have its probable maximum activity in the tadpole. In the month of April, he observed the process to take place to such an extent



Transverse Section of a Tadpole's Tail, in April, showing Phagocytes at their work.

that he had some doubts whether it might not be a possible physiological occurrence. Metschnikoff has shown that, in the early stages of absorption of the tails of larval batrachians, a large number of amœboid cells are present, within which are seen remnants of nerve-fibres and fragments of muscle. These fragments of the tail are digested and absorbed by the amœboid cells, which are in reality leucocytes engaged in devouring the tail of the tadpole, and have been named in consequence *phagocytes*. Mr.

Sutton has followed the process in considerable detail by means of sections carried through the tails of tadpoles at various stages, and can fully confirm the observations of Metschnikoff with regard to the devouring propensities of the leucocytes. There can be little doubt that not only the tail, but also the gills, are eaten up in this manner. Bacteria are evidently an old source of trouble in the world; they affect animals of all kinds, even water-fleas. Metschnikoff tells us of combats he has witnessed in the *Daphnia* between the white cells of the blood and bacteria, and how, when one cell was not sufficient to attack the invading bacterium, two or more would fuse together, surround, digest, and thus rid the little entomostracan of the intruder.

Can these facts be applied to mammals? If the cornea of a rabbit be irritated by nitrate of silver or a fine silk suture, the tissue becomes in a few hours red and hazy, due to the escape of leucocytes from the vessels to repel, or, if possible, destroy, the offending material. If a fine thread be drawn across the interior of a vein, leucocytes will soon swarm around it; and, under the microscope, it will look like a cobweb covered with hoar-frost. In tubercle, leprosy, perlsucht, or avian tuberculosis, the characteristic lesions swarm with bacilli. These minute organisms are often taken up by cells, and especially by giant-cells, which in the two last mentioned affections crowd the affected area in great numbers.

The consideration of these facts seems to indicate that in the giant-cell we have the counterpart of the fusion of phagocytes, as in the case of the *Daphnia* and other invertebrates; and it is in reality an effort on the part of the blood-corpuscles to rid the tissues of noxious elements. The large multinuclear cells, osteoclasts, seen in bone undergoing absorption, must also be placed in the same category. These observations place the whole process of inflammation in an entirely new aspect; and, in the place of being a purely pathological process, it will rank as one of normal physiology, which, when in excess, comes within the domain of pathology.

Inflammation may be of two kinds, according to the nature of the irritant. It may be simple or specific. Simple inflammation is the reaction which follows mechanical, thermal, or chemical stimuli or irritation. A specific inflammation results from the introduction into the organism of a particular poison or irritant, such as variola, glanders, tuberculosis, perlsucht, or actinomycosis.

The effects of inflammation undoubtedly vary with the irritant. Dirt on a child's hand produces warts; decaying animal matter will in some cases produce verruca necrogenica; and soot may cause the soot-wart to develop. No class of pathological productions illustrates the reaction of the organism to a specific virus so well as the peculiar group now known as the infective granulomata, which comprises tuberculosis, human, bovine or avian, leprosy, syphilis, glanders, actinomycosis, &c. The histological characters of the morbid formations in each of these diseases are practically identical. A soft tissue, made up almost entirely of round cells, very little intercellular substance, the presence of giant-cells, and in most of them a bacillus or a fungus, are constant features. Their infectiveness is very pronounced, for they may be transferred easily from one organism to another, and the "irritant" may be cultivated in artificial media.

The lecturer's observations, which have extended over the most important groups of the vertebrata, go to show that the mode by which a piece of noxious tissue is encapsuled or cast out of the body is only an illustration, on a large scale, of the process by which bacilli, bacteria, micrococci, &c., are in some cases rendered inert by the activity of cells. If, as in the case of the *Daphnia*, the quantity of micro-organisms invading the body be large, and the vitality of the organism be enfeebled, so that the leucocytes are insufficient to cope with the invasion, disastrous effects result.

Inflammation, as read zoologically, may be likened to a battle. The leucocytes are the defending army, their roads and lines of communication are the blood-vessels. Every composite organism maintains a certain proportion of leucocytes, representing its standing army. When the body is invaded by bacilli, bacteria, micrococci, chemical or other irritants, information of the aggression is telegraphed by means of the vaso-motor nerves, and leucocytes rush to the attack. Reinforcements and recruits are quickly formed to increase the standing army, sometimes twenty, thirty, or more times the normal standard. In the conflict cells die, and are often eaten up by their companions; frequently the slaughter is so great, that the tissues become burdened by the dead bodies of the soldiers in the form of pus, the activity of the cell being testified by the fact that its protoplasm often contains bacilli, &c., in various stages of destruction. These dead cells, like the corpses of soldiers who fall in battle, later become hurtful to the

organism which they in their lifetime were anxious to protect from harm, for they serve as breeding-grounds wherein the bacteria may germinate, and like a pestilence and scourge, devastate the individual.

(To be continued.)

A Visit to Foreign Dental Schools, and other Observations.

BY A. W. HARLAN, M.D., D.D.S., Chicago, Illinois.

A RECENT visit to Europe enabled me to observe the workings of the dental schools of London, Berlin and Paris. Before describing what I saw and heard in London, a few preliminary remarks concerning requirements for admission to English dental hospitals may be useful. Applicants for entrance to British dental schools, who commenced the study of dentistry prior to 1878, are not required to pass the entrance examinations; all others must undergo a preliminary entrance examination, comprising English language, grammar and composition, English history, modern geography, Latin, including grammar and translation, elements of mathematics, vulgar and decimal fractions, algebra (simple equations), geometry including the first two books of Euclid, elementary mechanics of solids and fluids, including statics, dynamics and hydrostatics, and one of the following optional subjects: Greek, French, German, Italian, or other modern language, logic, botany or elementary chemistry.

When the student has fulfilled the above requirements he is required to register himself as a dental student at the office of the General Medical Council. After such registration he must pursue his studies for four years in one of the recognized schools, including in that period an apprenticeship in mechanical dentistry under some registered dentist. Before taking his final examination for the L.D.S. degree, he must attain the age of twenty-one years. During the four years of studentship he attends lectures on general anatomy, pathology, chemistry, surgery, materia medica, physiology, and other general medical and scientific subjects in a regular medical school. He also does his dissecting, chemical and histological work, including the work of dresser or assistant in a hospital ward in the same school. Dental anatomy, physiology, surgery, mechanical and operative dentistry, special therapeutics, anæsthesia and other special subjects, are taught in the dental hospital, including practical work in operative dentistry.

Instruction in mechanical dentistry, as before mentioned, is obtained from private sources. The theory of mechanical dentistry, including carving of bone, ivory, &c., manufacture of instru-

ments, swaging, soldering, and the putting up of specimen cases, is taught in the dental hospital. Practical cases are not made in the dental schools of London. (I was so informed).

On entering the Dental Hospital of London (founded 1859), situated on one side of Leicester Square, you at first find yourself, in the reception room for patients (which is open daily, except Sundays, from 9 to 11 a.m.). A clerk or bookkeeper records the age, sex, residence, occupation and other facts of this nature relating to the patient, including the kind of operation which is required for his relief (filling, extracting, correction of irregularity, cleansing teeth, surgical operation, or other required service). The patient then goes upstairs where he is received by the house surgeon or his assistant, by whom he is assigned to the student. There are always plenty of patients. If an anæsthetic is to be administered it is given by the regularly appointed anæsthetist of the school, or under his direction. He attends daily. At least one clinical instructor is present daily, who performs some operation in filling or otherwise during his hours of service. The house surgeon and his assistant have charge of the operating rooms, and furnish the materials for filling, &c., to the student, who collects the fee. When the student gets a sheet of gold (No. 4) he pays thirty-six cents for it, and of course gets as much or more from the patient. No charges are made for plastic fillings, tin, gutta percha, or other services, except for gold, as above stated. This has a tendency to discourage the use of gold by the patient. He prefers the filling which costs nothing. The student, in consequence, does not get from this method of fees as much practical use of gold, even in twice the length of time, as he obtains in an American dental college. From what I saw I should say that very little cohesive gold is used by students in the hospital. Certainly not many large and complicated gold fillings are made by them during the two years' clinical work. They obtain a knowledge of the use of non-cohesive gold, however, which is perhaps quite as valuable in practice, because the English dentists as a class (with few exceptions) do not make, or attempt to make, large gold fillings, preferring plastics, pivoting or extraction, when cavities are large or teeth are pulpless, as they argue, from the system of fees which are in vogue, that it does not pay the operator; that people will not submit to prolonged operations, and that in many cases large gold fillings will not prove as serviceable (through lack of care of the teeth after filling, &c.) as frequently-renewed plastic fillings.

Root filling is taught, but I fear many (at present) do not practice it with that degree of care and thoroughness which we deem essential to success. It is not considered good practice in America, I believe, to fill roots of teeth with cotton, or to leave them unfilled and drill a vent hole in the side of the root. Many

dentists in Great Britain and on the continent practice in this way daily. American methods of filling teeth and roots of teeth have not taken that deep hold on the European practitioner which some theorists would gladly have one believe. Many foreign dentists—like some at home—read nearly everything that is published, but do not put into practice what in many cases would be better for their clients. They are content with the knowledge they possess, and do not easily or readily take up with new ideas. They are too conservative.

The rubber dam is used in the hospital. The gentlemanly house surgeon explained the methods of teaching, and was at considerable pains to show the *modus operandi* of ordinary operations. I think they have about one chair (not modern) for every three or four students. The operating rooms, although located on the fourth floor, are not well lighted, and are not sufficiently commodious, as there are two or three rows of chairs back from the windows. Dental engines were numerous, and many of them were in actual use. The students are not boisterous, they indulged in no loud talking, and appeared to be somewhat older than the average dental student at home.

Located in the same building is the office of the British Dental Association, and the journal of that society is issued from thence. The Odontological Society of Great Britain is also located on the lower floors, and their museum, rich in models, casts, skulls, and other valuable materials in human and comparative anatomy, is open to the student desirous of gathering knowledge. The past and present students have a society, which holds monthly meetings in the hospital, an exceedingly great advantage for the juniors. They hold annual reunions and give a dinner, to encourage social intercourse. Outside the entrance is a box for contributions for the support of the hospital. Soirées and subscription parties are also given from time to time for the support of the hospital. I thought, in ruminating over the subject, that if small fees were collected for all plastic filling operations, the contributions which are made by the benevolent, and the other funds coming into the hospital, might be used to reduce the cost of operations in gold, and thereby benefit the student by teaching him from actual practice the better methods of operating. I do not wish to be misunderstood in the above paragraph. The student is taught the methods, but he does not have enough practice in the use of gold while he is a student. The British journals publish a list of the operations performed in the various hospitals every month, and any one can see the justice of these remarks. Here is one of the late reports:—

Monthly report of cases treated at the Dental Hospital of London, from October 1st to October 31st, 1885:—

Extractions :—

Children under 14	...	...	...	...	...	378
Adults	...	...	...	...	...	912
Under nitrous oxide	...	...	...	...	...	276
Gold stoppings	...	...	...	...	...	267
Other	..	...	...	...	...	879
Advice	...	...	...	...	...	121
Irregularities of the teeth	...	...	...	...	...	97
Miscellaneous cases	..	...	...	...	...	387

National Dental Hospital—same month :

Extractions :—

Children under 14	...	...	...	...	...	424
Adults	...	...	...	...	...	555
Under nitrous oxide	...	...	...	...	...	614
Gold stoppings	...	...	...	...	...	121
Other	..	...	...	...	...	625
Advice and scaling	...	...	...	...	...	421
Irregularities of the teeth	...	...	...	...	...	409
Miscellaneous cases	...	...	...	...	...	146

Each statement is signed by the respective house surgeon. No reports of roots filled, or abscesses treated, or crowns or pivot teeth adjusted. The records speak for themselves. In the report of the National Dental Hospital for the year 1885, there is a record of 9,001 fillings, of which number 1,014 were made with gold. I have not seen the report of the Dental Hospital of London for the same year, but the monthly reports of fillings average about the same. That is to say, not quite twelve gold fillings in every hundred inserted. One unconsciously gathers from this, that the insertion of such a large percentage of fillings other than gold has a tendency to discourage thorough cleansing and preparation of cavities. Hence the frequent failure of plastic operations.

I visited the National Dental Hospital also, and the methods of teaching are substantially the same, the hours of attendance of patients, operators, house surgeons and clinical instructors, occupying about the same number of hours. This school is younger, and it occupies smaller quarters, but in other respects I should judge that the instruction is quite as thorough and scientific as that given in the older school. The fees are not quite as high. I found the house surgeon quite as willing to show me the working of the school as his *confrère* in Leicester Square. I visited the hospital on a rainy morning, in the company of another American dentist, and while there a discussion arose concerning the use of filling materials. The house surgeon argued that it was almost useless to insert gold fillings for the class of patients who visit infirmaries, as such people took no care of their teeth. I took the other side, or the student's side, which was that it was

a benefit to him, as it taught the use of instruments, the manipulation of gold, and that he would be better prepared to operate for himself when launched into the arena of daily personal practice. The question was not settled, but I hope that I impressed him with the importance of the proposition. This is the principal observable defect in the clinical instruction of each school. If there are forty students in a school for the year, and only 1,000 fillings of gold inserted during that time, it indicates a small average in the total number of fillings for each student.

The English student is well instructed in the use of anæsthetics, much better than are Americans. He learns more of comparative anatomy than we teach, and is generally well drilled in normal and pathological histology. Dental surgery and special therapeutics, I believe, from what I saw and heard, are better understood at home, by our college-educated dentists, than by our English cousins. This is my impression from many conversations held with dentists of low and high degree. They are better mechanics in the workshop, *en masse*, but not so ingenious or inventive. When it comes to the final examination, we must take a back seat, as the licensing bodies are not the teaching corps. When we adopt—as we must in time, and I hope very soon—that feature of professional education, then will our diplomas be like Cæsar's wife, above suspicion.

We deliver more didactic lectures in a six months' course in America than an English student listens to in eighteen months. By different methods we arrive at the same result. They consume more time, but place them side by side in practice, in a working society, in the field of journalistic contributors, and our own American graduates will hold their ground quite as well as the subjects of the Queen. The amount of valuable material published in professional journals in America attests this.

The British dentist is more social, and that element in his nature almost overshadows the scientific and practical side, even in dental societies. Their method of conducting meetings of societies has much in it to commend. Members do not straggle in at all hours, after business has begun, and no talking or whispering goes on while a speaker has the floor. The business of the meeting is conducted in a dignified manner. This to some might appear dull and prosy, but it pleased me. Scientific work is no laughing matter, and for a few boisterous, ill-mannered persons to talk and laugh and whisper while a scientific paper is being read, which has required weeks or months of labour to prepare, is a poor compliment to pay to the author. Hence this decorousness impressed me more forcibly, as I have been in society meetings where attention was almost wholly diverted from the business in hand to listen to a story or other trivial matter.

English fees are not based on anything but tradition. There is

no justice to the operator in his receiving but a guinea for his maximum fee. I will not say that larger fees are not charged or collected by English dentists, but the custom for those of the highest rank is to receive about \$5 for each operation performed, be it easy or laborious. Americans practising in Great Britain usually try to transplant American ideas, but they do not all succeed, as I heard of some who have adopted the English custom. Fees for artificial teeth are even higher than in America—and also lower—for in America no one ever heard of a dentist inserting a single tooth on rubber base for four shillings and sixpence—about \$1.10. As you descend in the grade of practitioners the fees decline also, fillings being inserted for a shilling, and artificial teeth going for a song. The custom prevails of inserting teeth over roots which are unfilled, and, as every one knows, it is a very filthy method.

Our American advertising dentists could learn a thing or two from the sons of Albion, were they in search of such information. The marvellous things they tell in newspapers of their exploits and their own "patent," "soft," "easy-fitting" "cushions" for "tender gums," and the brushes, powders, and elixirs which they have in hand, and other allurements for the money, are too numerous to mention. These charlatans are a class by themselves.

The English operating room is not as easily entered as are ours at home, except by the favoured few. Our own easy good-nature and carelessness of the feelings of our patients permits us to open our doors to nearly every caller, on the most trivial pretext. They are more careful in this respect. We ought to be.

When one enters a dental goods establishment and asks for anything new, they immediately show something from America. But by persistent questioning and keeping the eyes open, one will finally see a number of inventions and improvements on American instruments which cannot be found in America, because they are contraband. On account of the murky atmosphere in London, dentists either have to operate but few hours daily, or use artificial light. Hence there are many forms of reflectors and globes which we are unaccustomed to see. I found better nerve extractors than we can get at home; likewise syringes, explorers, files, and a number of little odds and ends which have to be picked up here and there as you see them, for, singular to relate, many of my choicest "finds" are not in catalogues or in the advertising pages of any dental journal. In conclusion, I have only to state that everywhere I was most courteously received and hospitably entertained, and if I have seen some things to criticise I have been equally unsparing of things and customs at home. In the next number of this journal I will continue my running observations.

Royal College of Surgeons of Ireland.

ON Wednesday last, April 28th, the Royal College of Surgeons of Ireland was the scene of an interesting ceremony. There has lately been added to the College buildings a splendid hall, devoted to the reception of the large collection of pathological and other casts made by Mr. Butcher, which was to be opened by the Lord Lieutenant. There has also been installed in the entrance-hall a statue of Mr. William Dease, one of the founders of the institution, which his Excellency was to unveil; and, lastly, the College had decided to confer the Honorary Fellowship on Professor Pasteur, Professor Huxley, Sir James Paget, Sir Joseph Lister, Sir T. Spencer Wells, and Professor Marshall. Unfortunately, only one of the recipients, Sir James Paget, could be present, Professors Huxley and Marshall being ill, M. Pasteur too busy warring with hydrophobia, Sir Spencer Wells prevented by a domestic bereavement, and Sir J. Lister on his way to the West Indies to attend a patient.

All the Fellows and Members of the College who could attend mustered, attired in their academic robes, besides many of the dignitaries of Trinity College, of the kindred College of Physicians, and distinguished members of the legal profession. The Lord Lieutenant and the Countess of Aberdeen, with the Prince Edward and Princess of Saxe-Weimar, arrived about half-past three o'clock, and were conducted in procession to Butcher Hall, where the President, Sir C. Cameron, delivered an address, explaining the nature and value of the objects to which it is devoted. They had assembled, he said, to do honour to the illustrious dead, and the illustrious living; to place upon the memorial of a truly great surgeon of the last century, wreaths of cypress and immortelles, and to grace with a mural crown the brow of one of the most eminent of surgeons of the present day. Last year, a large-hearted Irishman, many years a member of Parliament (Mr. O'Reilly Dease), undertook to defray the expenses of erecting, at the College, a statute to his grandfather, Mr. Dease, one of the principal founders of the College. Subsequently Mr. Butcher, an eminent past-president of the College, complied with his (Sir Charles Cameron's) request, that he should present to the College his unrivalled collection of pathological casts. Mr. Dease gave them another proof of the interest he took in the College, by proposing to build, at his sole expense, a place to contain Mr. Butcher's museum. He also presented an admirable portrait of Mr. Butcher, painted by Mr. Chatterton Smith. The College considered in what way the event might be most appropriately celebrated, and they resolved to render it more memorable by offering their Honorary Fellowship to some of the most distinguished surgeons and men of science. Their names were speedily

and unanimously selected, and public opinion had ratified the choice. Sir Charles then spoke in detail of the great attainments of the gentlemen on whom the honour was conferred, and at the conclusion of his address, introduced Sir James Paget, and formally presented him with the diploma of Fellowship, *honoris causa*.

Sir James Paget returned thanks.

The Vice-President then handed to the Lord Lieutenant the first copy of the history of the College, edited by Sir Charles Cameron; and a vote of thanks to their Excellencies was moved by Mr. Rawdon Macnamara, representative of the College in the General Medical Council, and seconded by Sir George Porter, Surgeon in Ordinary to the Queen. The resolution was adopted. The procession then returned to the Hall, where the Countess of Aberdeen unveiled the statue of Mr. Dease. His Excellency declared the Butcher Museum open, and the ceremonial terminated.

In the evening Sir Charles Cameron gave a banquet in the College, at which his Excellency the Lord Lieutenant, Prince Edward of Saxe-Weimar, the Duke of Abercorn, the Lord Mayor of Dublin, and nearly 200 other gentlemen, were the guests of the President.—*British Medical Journal*.

OBITUARY NOTICES.

WE regret to announce the death of another veteran since our last issue—Mr. CHARLES DE LESSERT, of Aberdeen. All through a long and active life he had done his best to uphold the dignity of his profession, and his loss will be deeply felt by all with whom he was brought in contact.

We also have to announce the death at the advanced age of eighty years, of Mr. JOHN JAMIESON, of Golden Square.

In another department of science, natural history, a very remarkable career has been brought to a close, that of THOMAS EDWARDS, the celebrated Banff naturalist. The story of his life as told by Dr. Smiles, has rendered his name familiar far and wide. His love for natural science continually got him into trouble, and he was once actually put under arrest, when a militiaman, for breaking ranks and rushing in pursuit of a butterfly! He married at twenty-three on 9s. 6d. a week. After the publication of his biography by Smiles, his genius received some tangible reward. £333 was presented to him in Aberdeen, and Her Majesty the Queen awarded him a pension of £50 a year. He was born in 1814.

APPOINTMENTS.

WILLIAM ADOLPHUS MAGGS, L.R.C.P.Lond., M.R.C.S., L.S.A., L.D.S Eng., has been appointed Dental Surgeon to the North-West London Hospital, vice Mr. F. Newland Pedley, F.R.C.S., L.D.S.Eng., resigned.

R. DENISON PEDLEY, L.D.S., M.R.C.S., has been appointed Dental Surgeon to the Evelina Hospital for Sick Children, Southwark Bridge Road.

E. A. BEVERS, M.R.C.S., L.S.A., has been appointed Dental Surgeon to the Radcliffe Infirmary, Oxford.

ANNOTATIONS.

THIS issue of the Journal has been unavoidably delayed for the only cause that the Publishing Committee consider to warrant such delay, namely, the organisation of a new branch. A full account of the proceedings will be found elsewhere.

THE Publishing committee of the Association are still greatly in need of copies of the February number; it is earnestly hoped that any of our readers who do not bind their journal will help us out of our difficulty by sending us their copies. The Committee will be happy to pay a shilling for every copy they receive. The expense of reprinting would be a serious drain on the funds of the Association, some eight members have already obliged us with copies.

THE current number of the *Cosmos* opens with an able article from the pen of Professor Sidduth, upon the well-worn subject of decay of the teeth. Dr. Sidduth will have nothing to do with the "inflammatory" theories of Drs. Heitzmann, Bodecker, Abbot & Co., and he quotes Dr. Miller in support of his scepticism,—he absolutely disbelieves in inflammation of the enamel, and suggests with much reason that if ordinary histology and pathology were to form the basis of researches into special phenomena, observers would not be so liable to be carried away by fads and less inclined to jump at unsound conclusions. This paper, which we hope to notice at greater length hereafter, brought down upon the author some very violent and unscrupulous criticism. Dr. Heitz-

man did not shine in the discussion, and Dr. Abbot appeared very intolerant of the presumption of an attempt to criticise his views.

THE Publishing Committee have to thank the numerous contributors who have by their constant assistance contrived to keep the pages of the Journal full of interesting matter. It is, however, necessary to state that the committee do not publish "original" communications that have appeared elsewhere, and that it is a grave breach of ordinary literary etiquette to send MS. to the Journal and allow us to set it up in type, if it has already appeared or is on the eve of appearing in a contemporary publication.

THE following statement of operations performed at the London Dental Hospital, Leicester Square, from February to April, 1886, has been forwarded to us for publication by Mr. H. LLOYD WILLIAMS, the House Surgeon :—

				Feb.	March	April
Number of Patients attended	...	...	—	—	—	2317
Extractions :—						
Children under 14	...	...	...	258	350	457
Adults	...	...	...	813	961	844
Under Nitrous Oxide	...	...	...	503	603	742
Gold Stoppings	...	...	...	283	381	164
Other Stoppings	...	...	...	1318	949	583
Advice and Scaling	...	...	...	159	123	128
Irregularities of the Teeth	...	...	...	172	182	103
Miscellaneous	...	...	...	420	358	98
Total...	...	...	...	3926	3904	3119

THE Students' Society of the National Dental Hospital, held an ordinary meeting on May 7th, Willoughby Weiss, Esq., L.D.S., in the chair. After several interesting communications from Mr. Phillips, Mr. Fripp, Mr. F. C. Wright and Mr. Rymer, the president called upon Mr. W. J. Fisk for his paper "The Reform of Dental Appointments," and after a prolonged discussion the meeting adjourned until June the 4th.

DR. HARLAN has published a very chatty and agreeably written account of his recent experiences in Europe in the *Independent Practitioner*. The article is to be followed up by another on the

same subject, it is well worth reading and has the merit of being just and impartial in its criticisms. The interest of a review of our own doings by a friendly visitor warrants us in extracting the article *in extenso*. It will be found at page 305.

A LETTER signed "Practitioner" (see p. 320) contains a very capital suggestion; we shall welcome the good correspondence he proposes to "wake up" about tooth-powder. We are sure that there is much to be learnt in this field of experiment, and hope our chemical friends will respond to the challenge.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—During the April sittings of the Examiners, the following gentlemen passed their First Professional Examination for the Licence in Dental Surgery: John Girdwood, Edinburgh; William John Fick, Brixton, London; and Charles McClean Cunningham, Leith; and the following gentlemen passed their Final Examination and were admitted L.D.S.Edin.: Edward Percy Rose, Leicester, and John Trude Fripp, London.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the April sittings of the examiners the following candidates have been admitted Licentiates in Dental Surgery: Matthew H. Nisbet, Glasgow; John Spotswood and F. Dale, Sheffield.

ALDERMAN SIR ROBERT N. FOWLER, Bart., M.P. (the late Lord Mayor), will preside at the first public dinner held in aid of the funds of the National Dental Hospital, 149, Great Portland Street, on Tuesday the 29th of June next, at the "Albion." 221,422 cases have been attended to since the formation of the hospital in 1861. Steward's fee, £1 1s.

M. BRASSEUR has been elected President of the Société Odontologique of Paris, and M. Gaillard, Vice-president; M. Dubrac is to be the new Secretary-General, while M.M. Saint Hilaire and Du Bouchet will, respectively, fill the posts of Treasurer and Foreign Secretary. The President for last year was M. Le Docteur Colignon.

IN the current number of the *Revue Odontologique*, a very simple hæmostatic agent is described, it consists of Chloroform—2, Pure

water—100. It was suggested to the profession by Dr. Spaak, and is recommended as being rapid in action, agreeable in taste, not escharotic, is simply made and costs nothing.

A NEW dental journal has recently started in Paris, *La Revue Dentaire*. The *Revue Odontologique* speaks hopefully of its future, and we very heartily wish it success.

ON Tuesday, May 11th, at the Dental Hospital, Leicester Square, Mr. Arthur Underwood commenced the summer series of lectures on Dental Anatomy and Physiology, and on the following day (Wednesday the 12th), Mr. S. J. Hutchinson delivered the first of his course of lectures on Dental Surgery.

MR. BLANDY in his speech as retiring president of the Midland Counties Branch, made some rather sweeping observations concerning the objects with which this Association had been founded. Mr. Blandy was of course at perfect liberty to enunciate his own views, or even those of the Branch over which he had presided, if he and the other members of the Branch desired these statements to be made. For ourselves we have carefully examined the bye-laws of the Association, and have failed to discover any statement of the special object upon which he lays so much stress.

A CONGRESS of medical practitioners and workers in the field of natural science is to be held in Christiania on the 12th of July.

BRAU PASTEUR has just been appointed a Grand Cross of the Order of the Rose.

CORRESPONDENCE.

We do not hold our

views responsible for the views expressed by our Correspondents.

The Interna

TO THE EDITOR OF THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION.

MY DEAR SIR,—Thinking from the quotation from your Journal in the March *Dental Cosmos*, that your information in regard to the past, present, and future condition of the coming International Medical Congress was erroneous in some particulars, and feeling that you and your readers should know the facts as they are, without prejudice, I write this to you, hoping you may be pleased to publish

it, or at least correct the impression which has gone out in said article of your very valuable Journal.

There was no hitch in the proceedings till the New Orleans meeting (Spring of 1885) of the American Medical Association, when the Committee appointed by the Association the year before to invite the Congress to hold their next meeting with us, was asked to report. They gave in their report which seemed to be much more full than was expected, not only reporting the acceptance of the invitation, but the full official corps of officers selected for the Congress, and right here the trouble began. The Association felt that the Committee (probably in good faith) had done much more than they were authorized to do, and finally as a compromise measure they *added* to the Committee one member from each State, and some to represent the Territories, and Army and Navy service, to revise the work of the old Committee, and amend what they in their wisdom thought necessary

Now, though voting myself against the proposition (for though I held that we had the *right* so to do, but with the extreme partisan feeling manifested, it was inexpedient to do so), I hold the right of the Association or any other body, to control the acts, revise, endorse, modify or reject their deeds as a Committee, or to add to their number whom they see fit, so long as they remain a Committee of the Association or body. Nor do I think anyone will dispute this position. If they were not still under the control of the Association, why did they report? and when any committee report, that report can be discussed, adopted, modified or rejected by the Association. I think you are wrong in the statement of the Association "claiming the entire direction of the Congress, and to exclude all members of the profession who were not within its membership." They, as I understand, *did* claim that as they were the only representative body of regular medical men that could be called national, and they having alone authorised the inviting, and would be held at home and abroad responsible for the success or failure of the Congress, they would be held responsible for the *preliminary* organisation of same, and should have the power to control and arrange said *preliminary* arrangements *not of the Congress*, and I think I voice the large majority of the members of the American Medical Association when I say, there was, is, and will be *no desire* to exclude *any* regular practitioners, of this or any other country from participation in the said Congress.

You say "in consequence of this ill-judged action was the resignation,

with one or two exceptions, of every practitioner of first-class standing whose names had been mentioned in connection with the approaching Congress." This statement, I must assure is erroneous, as there are over double that number of officers named in the Dental and Oral section alone who remain, and of the whole a large number, *sixty or seventy I am certain* of the Officers and Council remain now. I am not stating this on my own authority merely, but with the facts before me, and in this statement I am not mistaken; and I must state right here, that while I thought at the New Orleans meeting that the original Committee acted as they did conscientiously, since then they have apparently omitted nothing to induce Officers of their choosing to resign, and have written and done all in their power to destroy the organised efforts to make the matter a success, that I am almost forced to change that opinion, and it is not strange under these circumstances that they induced many to resign, and I am sorry to think any American can so far forget himself as to work to destroy any scientific matter like this, where *individuality* should be sunk in *Nationality*. You also say, "one of the first acts of the usurpers had been to abolish the section of Dental and Oral surgery," but later, realizing apparently that they must bid for all the help they could get, the new Committee proposed to re-establish it—but it was now too late." This idea is radically wrong, for as Secretary of the Section of Dental and Oral Surgery in the American Medical Association, I am cognisant of the facts. At the Chicago meeting of the enlarged Committee, they found themselves with, as they thought, too many sections, and after mature deliberation, they concluded to make it really a sub-section of surgery, consolidating it therewith; and in one, at least, other section a consolidation was made so as to make two or three less sections. There was no intention by the Committee of snubbing the dentists, although this has been represented, and nothing was done in the Committee Meeting that could rationally be so construed. The Secretary of the Committee has been represented as saying, "That dentistry was kicked out, or thrown out, as it had no place in legitimate medicine." It is needless to say that he denies having said so, and the fact of the American Medical Association having had for years a section devoted to Dental and Oral Surgery in successful operation would show that the matter was falsely represented. After the Chicago meeting, Dr. J. S. Marshal, Chairman, and I as Secretary of the last-named section, sent a letter to each member of the Committee, calling their attention to the facts of the case and that the section would practically have to be independent in order

to make it a success, and asking to have it re-established as an *independent* section. At the next meeting of the Committee this was done, and the section is now fully established and officered, as follows:—

*President, Dental and Oral Surgery, International Medical Congress,
to be held at Washington, December, 1887 :*

Dr. J. Taft, Cincinnati, Ohio.

Vice President :

Dr. W. W. Allport, Chicago, Ill.

Secretaries :

Dr. E. A. Bogue, New York City. Dr. S. F. Rehwinkel, Chillicothe, Ohio.

Council :

Dr. F. J. E. Gorgas, Baltimore, Ind.

Dr. W. H. Morgan, Nashville, Tenn.

Dr. J. W. White, Philadelphia, Pa.

Dr. A. O. Hunt, Iowa City, Ia.

Dr. W. A. Spalding, Minneapolis, Minn.

Dr. G. W. Keely, Oxford, Ohio.

Dr. C. H. Brackett, Newport, R.I.

Dr. J. McManns, Hartford, Conn.

Dr. J. Richardson, Terre Haute, Ind.

Dr. A. L. Lathrop, New York City.

Dr. B. H. Catching, Atlanta, Ga.

Dr. W. C. Wardlaw, Augusta, Ga.

Dr. E. S. Chisholm, Tuscaloosa, Ala.

Dr. C. W. Spalding, St. Louis, Mo.

Dr. M. W. Foster, Baltimore, Ind.

Dr. Finley Hunt, Washington, D.C.

Dr. C. F. W. Boedecker, New York City.

Dr. E. Palmer, La Crosse, Mo.

Dr. G. L. Fredrichs, New Orleans, La.

Dr. R. R. Andrews, Hartford, Conn.

Dr. C. A. Marvin, Brooklyn, N.Y.

Dr. S. B. Palmer, Syracuse, N.Y.

Composed of President, Vice-President, two Secretaries, and Twenty-two Councillors, and the preliminary work is being vigorously pushed.

I am sorry to say the opposition to the section seems to centre in our city, and is led by the ones who eagerly sent broadcast over the country, circulars asking dentists to *demand* a section, and these same people the moment it was learned that the section was organised, became and have ever since been hostile to the organisation. I know of no reason, therefore, only the fact that they were not named as the officers of said section, and I dislike to think they would oppose for such a reason, but certain it is that they have been, and are doing all they can to injure it. One of their number having spent one or two months abroad lately, it has been said that he spared no pains to say a word against it at every opportunity. I think, however, the organised opposition is fast falling to pieces. Nearly all the Journals (*Dental*) are in favour of the Section—all I think, save the *Independent Practitioner* and the *Dental Cosmos*, which both claim to be neutral.

I believe the above are the facts in the case without favour or preju-

dice, and by publishing you will do the Dental profession a good, as they want the facts, and I know you are interested in publishing facts when they are obtainable.

Yours very respectfully,

A. E. BALDWIN, M.D., D.D.S.

Chicago, Ill., March 31st, 1886.

The Invention of the Burring Engine.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—It cannot be too generally known that we owe the introduction of the Burring Engine to that distinguished scientist and engineer, James Naysmith, Esq., of Hammerfield, Kent, the inventor of the wonderful Steam Hammer, not to Sir Robert Naysmith as mentioned in the Messrs. Ash's catalogue. Mr. Naysmith's description of the Burring Engine is given, with illustrations in his autobiography, a book, I may add, which ought to be in the hands of every young man who has a taste for mechanics, or who is commencing to fight the battle of life in any profession.

ROBERT HEPBURN.

Tooth Powder.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—I have noticed with satisfaction the prominence given in your Journal to matters of a practical bearing on our daily work, and therefore I venture to suggest that if you or any of your readers would afford the profession some reliable advice in *re* "tooth powders," it would be welcomed by all of us. People continually ask, what is the best tooth powder? and it is a very difficult question to answer. It is an undoubted advantage that the tooth powder should be nice to taste, a good many patients would not use it unless it is so. Again, it must be harmless to the teeth and not too expensive. Let us wake up a good correspondence eliciting all the latent chemical knowledge of your readers, I am sure we shall all be the better for it.

Yours obediently,

PRACTITIONER.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 40, Leicester Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Members are reminded that their Subscriptions for the current year are now due and should be remitted to the Treasurer, at 40, Leicester Square.

According to the Byelaws of the Association, Members who are one year in arrears are not entitled to receive the Journal.

All Correspondence for the Editor, Books for Review, and Exchange Journals should be addressed to 40, Leicester Square, London, W.C.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 6.

JUNE 15, 1886.

VOL. VII.

The August Meeting.

THE increasing interest in our internal organisation and in our educational progress, which is surely permeating our profession with constantly accumulating energy, must of necessity demand a periodical outlet, and so we may expect our annual meetings to increase in importance as the intelligence of our members is brought to bear upon them. No doubt local conditions may prove an important factor in their success—as for example our meeting last year in one of the ancient centres of the kingdom, and we may venture to hope that a meeting held in London will provide conditions of success second to none that have hitherto been offered to our members. As all roads used to lead to Rome, so may we now say that all roads lead to London, and that, too, in an extended sense which was never

dreamed of by the author of the ancient proverb. By the provisional programme which has been forwarded to us by the Hon. Secretary of the Association and which we publish elsewhere, it will be seen that the provisions made for the entertainment of our members are entirely of a social character. It was no doubt felt by the Committee entrusted with making the necessary arrangements, that anything like excursions would be failures.

It was wisely considered that, as London is so much the property of the nation at large and so much within the ken of every one and offers such a diversity of centres of interest, the inclinations and fancies of those who may attend the meeting would be best left to take care of themselves, and that any attempt to concentrate the attention of even a few in one direction would most surely prove futile.

Hence, the time of the members has been disposed of in a way which it is hoped may bring them most certainly together during the three days devoted to the business of the Association, and when that is finished, they will feel at liberty to dispose of themselves without restriction of any kind.

That the business of the Association will be of more than usual interest, we feel certain. Already the notes of innovation have been sounded, and suggested changes will have to be seriously discussed by the members at our business meeting. Our Association is still young, and, like all young institutions, more or less on its trial. Whether changes are desirable at this early period of its history, may be a question for discussion, as well as the value of the suggested alterations, but of this we feel sure, that those who seek to promote changes will be listened to with every consideration by all who have the welfare of our profession at heart, for surely activity in almost any form is better than stagnation, or than a blind acquiescence

in that which is not understood. In our next issue, we hope to be able to announce the titles of some of the papers which will be brought before the Association, and meanwhile we will call the attention of our readers, to the notice of our Hon. Secretary, and urge intending contributors to signify to him their intentions as soon as possible in order to facilitate the necessary arrangements. We cannot close our remarks without expressing the great pleasure which the contemplated action of the Council of the Odontological Society affords us. It was feared at one time that the growth of our Association might interfere with the welfare of that Society. Time has dissipated this apprehension and has shown that those who know what is best for our profession take an interest in both, and now we have the satisfaction of seeing the Odontological Society coming forward, and receiving us as co-workers with them in the elevation of our profession and generously offering us their hospitality.

Sir John Tomes, F.R.S.

IN our report of the Representative Board meeting held on the 5th inst., stands a brief but felicitous speech by Sir Edwin Saunders, congratulating his friend and colleague on the honour of knighthood recently conferred upon him by Her Majesty. We feel assured that every word of the sentiments therein expressed will be reciprocated by all reputable dental practitioners, not only in this country but throughout the world.

At home we recognise Sir John Tomes as the scientific and political leader and organiser of our profession, and we are well within the mark of honest eulogium when we say that he has more than earned the high distinction which he has received. It is now more than a quarter of a century

since he, with but a handful of men who had the courage to believe in the future of their adopted profession, commenced the educational movement, which must form the basis of all true progress. Many of these have passed away from the scene, a few seem to have fallen out of the advancing ranks, but we doubt not their feelings of satisfaction with the progress we have made under the guidance of our trusted colleague, and we may hope for still further aid from the steadfast circle who still act in concert with him.

The first step to secure a true system of professional education was to establish a Board of Examiners, who could formulate a suitable curriculum and certify to its fulfilment. Such a Board was established by the Royal College of Surgeons of England, and it is now well-known that Sir John—then Mr.—Tomes was the negotiator with the College of Surgeons on behalf of the dentists, and without doubt his scientific reputation and well-known integrity and clearness of purpose gave him great personal influence amongst the leading members of the Council of the College, and was mainly instrumental in breaking down the feeling of more than prejudice, almost of contempt with which dentists as a body were then regarded by the medical profession, and it must be confessed not without cause.

The College of Surgeons has always been chary of granting special diplomas, but in applying for the Dental diploma, it was shown that dentistry is not only a specialty, but that it requires a special training which is not to be had in the ordinary course of medical education, and to make this evident was one of the tasks which devolved upon our leader and which he successfully accomplished. The curriculum first established by the College, mainly by Mr. Tomes' suggestions, has worked so well that

few material alterations have been found necessary up till the present time, although since it has received legal authority the modes of examination have been considerably amplified. Since the establishment of the College of Surgeons' diploma, Sir John Tomes has patiently waited the result. Like all the leaders of men, he trusted to the stimulus of the first effort in the belief that if that were fruitless, no further results could be expected from it. We know that this educational scheme did produce a powerful feeling amongst us of dissatisfaction with the condition of our profession, and when, after much conflict and strife, that dissatisfaction manifested itself in an organised movement, he was ready to encourage and guide it, and at the right moment to lead it on the way to success. Under his guidance the essential clauses of the Dentists Bill were formulated, and mainly by his influence was opposition overcome until it became law. This is a brief way of relating the work of many years, but let those amongst us now who have had a hand in establishing one of the branches of our Association, think of their difficulties magnified a hundred-fold, and they may then have some faint conception of the task which has been accomplished by the subject of the article. His opinions at the office of the Privy Council were always listened to with the greatest respect, and we believe that he is held in high esteem by the officials in that department of State machinery.

Sir John Tomes has, however, another claim to distinction that cannot be passed over in these pages, and that is, the work he has done in a scientific direction.

It is not too much to say that it is the discovery of the protoplasmic nature of the dentinal fibrils, that we must regard as the commencement of a proper understanding of the nature of dentine, and this must always rank as Sir John Tomes' greatest contribution to our

science; his researches into the minute anatomy of bone, in which he was associated with the late Mr. De Morgan, of Middlesex, and his innumerable contributions to the study of comparative anatomy, have rendered his name familiar to every student of histology; but those whose chief interest lies in dental structures will naturally always associate his name with the demonstration of the soft and living fibril, and we think though knighthood is a pleasant compliment, even to the most philosophical among us, it is after all a prouder title to be the Tomes, of Tomes' fibrils as long as dental science exists.

ASSOCIATION INTELLIGENCE.

Meeting of the Representative Board.

A MEETING of the Representative Board of the Association was held on Saturday, June 5th, Sir John Tomes, F.R.S., in the chair. There were present Sir Edwin Saunders, Messrs. J. S. Turner, T. Rogers, T. Gaddes, J. Parkinson, A. J. Woodhouse, Morton Smale, S. J. Hutchinson, Storer Bennett, A. Gibbings, F. Weiss, and F. Canton, London; Messrs. Brunton, Leeds; J. Dennant, Brighton; G. Cunningham, Cambridge; J. Fenn Cole, Ipswich; R. Rogers, Cheltenham; J. T. Brown-Mason, Exeter; W. H. Waite, Liverpool; S. Lee Rymer, Croydon.

On Sir John Tomes taking the chair, Sir EDWIN SAUNDERS offered the congratulations of the Board to him on the State recognition of his services in the following appropriate words:—

GENTLEMEN,—Before proceeding with the business of the meeting, I desire, with the permission of the Chairman, to speak a few words of congratulation on the new dignity which Her Majesty has been pleased to confer on our esteemed friend, the President of this Representative Board. I am quite sure that everyone here present, every member of the Association, and indeed, I may say, every member of the profession, must have felt a glow of satisfaction, an emotion of unmingled pleasure in reading amongst the recipients of honours in the royal birthday gazette the name

of Mr. John Tomes. His earnest and protracted labours in the cause of dental reform and organisation are too well known to need recapitulation, nor do we need to be reminded that to these services—in collaboration with his indefatigable coadjutor, our Vice-president—the present prosperous condition of the Association is mainly due. On these grounds, and for his various contributions to the literature of the profession, we hail this mark of royal favour as a fitting crown to a long, laborious, and blameless professional career. We trust, Sir, that you and your amiable and accomplished wife may long be spared to enjoy your new honour, with all the social consideration which it brings, and all the distinction that it cannot fail to reflect on the profession to which you belong.

Sir JOHN TOMES, in responding, expressed his warmest thanks for the kind and generous manner in which Sir Edwin had proposed the motion of congratulation and in which the members of the Board had accepted the proposal. Setting aside all personal considerations, he regarded the honour conferred upon him as a public recognition of our profession as such, on the part of the Sovereign; and this, at a time when we are rapidly emerging or had lately emerged from the dark ages of our calling, must be considered as an event of some importance—one which we may all view with unmixed satisfaction, and accept as an encouragement to proceed earnestly onward in the development and the diffusion of professional knowledge. Personally, he felt he was accepting an honour for work in which many had taken part. But the selection of the recipient rested not with the one who received the offer, and there being no alternative beyond simple acceptance or refusal, he felt it a duty to his calling to accept with gratitude the knighthood. He again thanked the meeting for their warm expression of kindly feeling in his favour, and took the opportunity of returning his thanks for the many kind letters of congratulation he had received from members of the profession, and which he had not yet had an opportunity of separately answering.

The Minutes of the last meeting were read and confirmed.

The formation of the Southern Counties Branch was brought under the notice of the Board, and a resolution passed duly recognising the same.

The Treasurer reported balance at bank £320 13s. 11d., and that 330 members were in arrears with their subscriptions.

A letter was read from Mr. H. E. Blandy giving notice that he

intended at the next annual meeting to propose an alteration in Bye-law I. as follows (the proposed additions are in italics):—

“A person who is registered in the Dentists’ Register shall be eligible for election as a member of the Association, *or member or associate of a Branch*, provided that he be of good character, *that he practises dentistry solely*, that he does not conduct his practice by means of . . . or by the publication *of his professional qualification* or scale of professional charges.”

Mr. Hutchinson also gave notice that he intended to propose at the next annual meeting the term “Honorary Member” be substituted for that of “Fellow.”

The Hon. Sec. submitted the provisional programme for the annual meeting to the Board, which was approved.

The following gentlemen were elected members of the Association by ballot: S. C. Gibbons, L.D.S.Eng., Brighton; John Woods, L.D.S.I., Brighton; C. Swinn, Manchester; R. J. Hargreaves, L.D.S.I., Bacup.

Provisional Programme of the Annual Meeting.

ANNUAL GENERAL MEETING to be held on Thursday, Friday, and Saturday, August 19th, 20th, and 21st.

Wednesday Evening, Aug. 18th.

A Dinner to the Representative Board, given by Sir John Tomes. Reception to ladies and members generally, by Sir Edwin Saunders.

Thursday, Aug. 19th.

9 a.m.—Representative Board meeting in the Library of the Royal School of Mines in Jermyn Street, Piccadilly.

10.30.—Annual General Meeting in the Theatre of the Royal School of Mines, and the reading and discussion of Papers commenced.

1 p.m.—Adjournment for Luncheon.

2.30.—Reading and discussion of Papers continued.

5.30.—Adjournment.

Evening.—Conversazione.

Friday, Aug. 20th.

10 a.m.—Reading and discussion of Papers continued.

1 p.m.—Adjournment for Luncheon.

2.30.—Demonstrations and Exhibitions, &c., in the Dental Hospital, Leicester Square.

6.30.—Annual Dinner.

Saturday, Aug. 21st.

10 a.m.—Papers continued, if necessary.

4 to 7 p.m.—Garden Party given by Sir Edwin Saunders at Wimbledon.

The Benevolent Fund.

THE following new subscriptions and donations to the Benevolent Fund of the British Dental Association have been received by the Treasurer since January 1st, 1886.

Subscriptions.

Carson, F. W., 114, Bold Street, Liverpool	£0 10 0
Chasmore, Frank, 24, London Road, Horsham	0 10 0
Comer, Dr. Frank, 79, Queen's Gate, S.W.	3 3 0
Cameron, Donald R., 118, Sauchiehall Street, Glasgow, (increased from 10s. 6d.)	1 1 0
Dixon, E. A., 27, Head Street, Colchester	1 1 0
Elliott, Dr. W. St. George, 37, Upper Brook Street, W. ...	1 1 0
Farebrother, H. Lloyd, New Street, Salisbury	1 1 0
Gibbons, S. Clifford, 61, Old Steine, Brighton	1 1 0
Gibson, John W., 87, Great Hamilton Street, Glasgow ...	1 0 0
Jackson, Thomas, 23, Hargreaves Street, Burnley	0 10 0
Moore, Joseph, Melford Lodge, Bournemouth	0 10 6
Mortimer, F. C., Cornwall House, Ordnance Row, Portsea	0 10 6
Redman, Dr. J. H., 61, Old Steine, Brighton	2 2 0
Stewart, James, 19, Princes Street, Perth	0 10 0
Sevinn, Charles, 125, Upper Moss Lane, Manchester ...	1 1 0
Smith, Albert, 5, High Street, Newport, Mon.	0 10 6
Thrower, E. A., Diss.	0 5 0
Tuck, Richard H., North Pallant, Chichester	1 1 0
Tait, Thomas A., Oak Villa, Tenderden	0 5 0
Whatford, J. H., 6, Seaside Road, Eastbourne	1 1 0
Wallace, James, 48, Dundas Street, Glasgow	1 0 0
Whyte, A. C., 42, Dundas Street, Glasgow	1 1 0
Woodhouse, R. H., 1, Hanover Square, W. (increase from £1 1s.)	2 2 0
Woodhouse, W. H., 1, Hanover Square, W. (increase from £1 1s.)	2 2 0
Donations.	
Drabble, R. C. Heaton, 69, Wicker, Sheffield (in addition to Subscription)	1 1 0

Elwood, W. H., 62, Pakenham Place, Dublin Road, Belfast	£0 10 0
Fingland, Wm., 29, High Street, Wavertree, Liverpool ...	1 1 0
Gibson, James, Balmoral House, Hebden Bridge...	0 10 6
Goldfinch, G., Hendon, N.W.	0 2 6
Hele, Warwick, 11, Portland Square, Carlisle	2 2 0
Hugo, G. J., 15, Alley Street, Guernsey	1 0 0
Knott, E. H., Old Steyne, Brighton... ..	1 1 0
Mallan, G. Prescott, 30, Monmouth Road, Westbourne Grove, W. (<i>second donation and in addition to subscription</i>)	2 2 0
Mansell, Thos., 29, Hamilton Square, Birkenhead ...	0 10 6
Midland Branch of the British Dental Association ...	10 10 0
Pedley, G., 17 and 18, Railway Approach, London Bridge, S.E. (<i>second donation</i>)	1 1 0
Sylvester, Thos., 2, Canterbury Villas, Ashford	0 5 0
Shelton, J. A., Albion Street, Spalding	0 5 0
Summerling, Arthur, 66, St. Edward Street, Leek... ..	0 5 0
Smith, Frederick, Burlington Street, Chesterfield...	0 10 6
Thornley, Thos., Bolsover	0 2 6
By Sale of Photographic Portraits, taken by Mr. Blandy, of Nottingham, at the Meeting of the B.D.A., at Cambridge, August, 1885	10 0 0

ORIGINAL COMMUNICATIONS.

Crown, Bar and Bridge Work.*

By Dr. J. WALKER, M.R.C.S., M.D., L.D.S.Eng.

"MR. PRESIDENT AND GENTLEMEN.—I do not propose to advocate this plan of new mechanics for the supply of artificial teeth. I wish simply to demonstrate what is being done, and then to ask you for the benefit of your ripe experience, so as to enable us to consider the question of whether this treatment is right or wrong, and whether up to the present we have been following a mistaken policy with regard to dentures. The argument, for adopting pivot, pin, bar and bridge work, is, that by covering the mucous membrane you increase the flow of saliva and the acid secretion of the membrane, and so an artificial denture may destroy the sound organs. For this method I claim that it produces less destruction of the natural organs. I will explain the method itself. This

* Read at the Annual Meeting of the Midland Branch.

(holding up a model) is supposed to be a fang properly prepared and quite pure, the pulp fully extracted, and the nerve canal purified. In such a case, instead of the old plan of a cylindrical pivot, we now make a square pivot, and the square pivot is introduced into the prepared hole. Then in order to prevent lateral motion, a cap is placed on this square pivot, and in order to make that perfect you also prepare a fang under the line of the gum by means of a set of instruments made by Messrs. Ash, called trefine instruments. These are instruments with a rotating motion so as to prepare a cavity to receive the cap, after which follows the ordinary process of fitting the tooth for the cap, and of packing it with metal. It is maintained that by packing with gold or tin or any soft substance, a pivot tooth as substantial and durable as possible may be produced. Without suggesting that there is less force on the pivot because of the cap, it is argued that by having a square instead of a circular pivot there is naturally less motion. Therefore, if you fill this cap with gum so as to absolutely exclude the saliva, the root will remain just as you place it, intact, and the cap prevents the action of the saliva on the surface of bone exposed by the preparation of the root. The rest of the treatment is based on this one fang preparation. You can prepare a fang in the centre of the mouth, or the roots of a molar, and it is claimed that a full denture can be sustained in position by three roots. I will now explain what is meant by the 'bar' principle. This model represents a half tooth mounted with a square bar across, turning at angles and passing simply straight, and is to be introduced into the interspaces between two sound teeth. The teeth on either side are prepared and drilled in absolutely sound tissue, the operator being exceedingly careful not either to expose the pulp, or to permit the preparation to be so near as to allow any action on the pulp by changes of temperature. Great care must therefore be taken first of all to ascertain the thickness of dentine which it is necessary to treat. Then you have to minimise the amount of curved bar according to the thickness of tooth, it must be prepared *in situ* by an assistant. The plug is then inserted with cohesive foil, and by means of a hand mallet. One of the greatest difficulties in the whole operation is to hold the tooth *in situ* perfectly still while the foil is introduced. When the plug is perfect, the rubber dam is removed and the articulation perfectly adjusted. There must be no force exerted by the opposing tooth. Five years ago, believing as I then

did, that the two adjacent teeth would move backwards and forwards, I absolutely condemned the operation in print. A friend who had operated on three cases, asked me to take the trouble to see one of the patients every two months. I watched the case accordingly for four years, seeing the patient as often as I wished, and at the end of the fourth year there was no motion whatever in the adjacent teeth, and there was no periostitis and no accumulation of food."

The speaker here demonstrated the method of the operation by models specially prepared, adding that it was best to begin with a molar and a bicuspid as a first case.

"For a long time only cohesive foil was employed. Now, platinum is being used for the bar, and amalgam to introduce and render it secure. Having described the 'pivot' and the 'bar,' I will now come to the 'bridge.' There are three methods. The most simple is to adopt the first principle, as I have described to you—the pivot, the cap and the bar. I have tested the masticating power of the teeth thus introduced, and have absolutely seen people crack a nut without any displacement whatever. The next thing, more complicated still, is two caps with a pin inside. All the tuberosities are reduced off the molar teeth, and a perfectly cylindrical cap is adjusted; then a hole is drilled just large enough to introduce this pin. There are three kinds of bridge work. The last, that has been introduced only this month, is to so place a single tooth *in situ* that nothing shall be covered except the lingual surface of the central tooth. The tooth is prepared and packed; casts are made, not zinc, but gum. You prepare your metal exactly as you have prepared your tooth and introduce these pins, so that you can introduce the tooth, and the cap and the plate at the same time. Here care is necessary that you do not open the nerve canal. Of course if it is a bungled operation you lose a useful tooth. Moisture must be excluded during the operation, and prevented from having access afterwards. The difficulty lies in the preparation. I need not tell you that frequently teeth are lost by this method, but it is argued that by this plan you destroy no organ except what you destroy yourself. My experience goes to show that, whatever denture we introduce, we get erosion of the enamel if clasps are used, and congested membrane if a very high power of suction is introduced. Which is the most destructive—the large palates with congested membrane and the acid fluids, and the depressed membrane around

the neck of each tooth together with a mass of decomposed matter that we are always taking into our mouth, or the destruction of osseous tissue induced by gold introduced into these fissures? I have here prepared them in gold, so that you may see exactly what is attempted, and I should like to hear what is your idea of the process. I have seen five cases, four of which I examined for three years, and that emboldens me to bring this forward for discussion. I would not undertake it at an earlier date, because I think such a radical change of treatment requires very careful handling. I have brought you these cylinders of metal for the preparation of the caps. You simply take metal of certain gauges according to the stability of your work, whether thin or thick. If you look at it you will find the holes tapering. They are of different shapes, supposed to resemble the shapes of the teeth that may require treatment; there is also a plate resembling a draw-plate with very large perforations, so that if the cap is a little too large it may be introduced into one of the holes, and thus the fit may be rendered perfect."

A New Matrix for Approximate Fillings.*

BY E. J. LADMORE, L.D.S.

BEFORE commencing, let me explain that my time has been so much occupied of late as local secretary in the work of organising this meeting, that it has been quite impossible to give my subject the attention which it deserves, and as I have only been able to devote a few hours to the composition of this paper, I must crave your indulgence for any errors in composition and possibly obscure descriptions which it may contain.

With the introduction of Dr. Herbst's method of inserting fillings of gold and amalgam, a really good matrix has been found to be a great desideratum, as, by an efficient appliance of this kind, fillings can be made more dense and perfect in every way, while the labour of filing and finishing is reduced to a minimum.

I propose, therefore, very briefly to direct your attention to some of the various forms of matrices which have been noticed from time to time, and will close by introducing the one which forms the subject of this paper.

* Read at the Annual Meeting of the Midland Counties Branch, held at Bradford, April 30th, 1886.

The matrix for filling mesial or distal cavities in the molar and bicuspid teeth is no new idea, but has long been known and used in various forms more or less imperfect, the most rudimentary form being the wooden wedge, or bit of broken file, inserted between the teeth to be operated upon, and used more especially in amalgam fillings.

Following up this idea we have Dr. Louis Jack's set of steel matrices, which consisted of a series of square pieces of flat steel in varying thicknesses having polished concavities on one side to mould the contour of the proposed filling. These pieces of steel were wedged between the tooth under treatment and its neighbour, with the concave side facing the cavity of decay, and their efficiency depended upon their being held tightly against the edges of the cavity to prevent any movement during the process of inserting the filling material. It is almost unnecessary to say that this pressure against the enamel edges was a fatal objection to this form of matrix, as there was considerable risk of crumbling, and in some cases, fracturing the enamel edges when the walls were frail, and so jeopardising the permanence of the completed work.

Very lately, in connection with Dr. Herbst's method of inserting fillings, modifications of this form of matrix have been revived. Dr. Herbst himself recommends using pieces of clock spring wedged between the teeth, and in the case of cavities between the superior incisors, say, for example, a mesial cavity in the left central incisor, the spring is passed between the teeth, having the ends bent in opposite directions somewhat like the letter Z. The outer end resting upon the labial face of the tooth to be filled, and the inner end bent away from it and resting upon the lingual face of the right incisor. This arrangement is held in position by the fingers of the left hand, which imposes a very serious task upon the energies of the operator, besides leaving him single-handed.

Mr. Storer Bennett surmounts this latter difficulty by cementing the spring or piece of dividing file into position with shellac, and he even advocates the use of shellac alone, lining it on the side next the cavity with platina foil to give a better surface for the filling to be built against.

Now this last named gentleman recommends the shellac matrix with the authority of experience, but, to one inexperienced in its use, this matrix seems very difficult to manipulate so as to withstand the pressure and certain amount of heat sometimes generated by the rotation of the Herbst instruments.

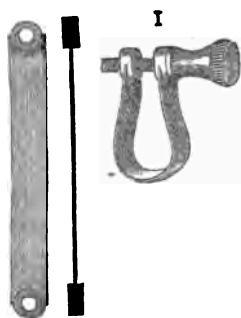
It will be readily seen that all the above devices depend upon the presence of a neighbouring tooth as a resisting medium, and that if such tooth is absent they are all inapplicable.

For that reason I do not care for any of them, believing as I do, that, (speaking generally) each tooth should support its own matrix independently of its neighbour. This brings me to the next series of matrices, viz., those which encircle the tooth in the form of a band.

Dr. Cunningham has proposed two plans for accomplishing this object. In the one case he fits a band of platina plate specially to the tooth to be filled, and when the size is accurately determined the joint is soldered with gold, and it is then ready for use. In the other case, for use with Herbst's method, he has suggested that platina foil be wound round the tooth and held in position with an ordinary molar or bicuspid clamp.

I do not know if I quite understand Dr. Cunningham, or whether he has actually tried this latter form, but so far as one can judge without actual experiment, it seems evident that with the pressure of a spring clamp only, it cannot possibly withstand the pressure of fillings with gold.

The next appliance I have to mention is a set of so-called loop matrices made by S. S. White (Fig. 1). They consist of a series



of steel straps, thickened at the ends and with a hole in each end, one of which is screwed to fit a thumb-screw with a milled head, which passes through both holes and secures the band round the tooth by being screwed up.

A glance at this matrix does not recommend it, because it is

evident that it cannot be screwed up dead without fracturing the band close to the thickened ends, therefore a certain amount of spring tension must be left which will assuredly give way while filling the tooth.

Yet another form of matrix, though I am not aware of it being used as such, is the retaining band used by Dr. Farrar in his system of regulating teeth, and it is to my mind much superior to the last named. (Fig. 2. Slightly incorrect in drawing).



It consists of a platina band to encircle the tooth, having a round hole at one end and a screwed wire soldered to the other in such manner that when it is applied to the tooth and the screwed wire of one end inserted in the hole of the other end, it is easily screwed up quite tightly with a nut, making a very rigid matrix if the length has been accurately determined.

All the band matrices named fail in one important particular, namely, that they do not approximate to the shape of the natural teeth. To express myself more clearly:—if the molars and premolars had perfectly parallel sides, several of the above would serve their purpose admirably, but as this is not the case and as the teeth named, have, on the contrary, their smallest diameter at the cervical margin, it follows that they must all fail in their adaptability at this point.

I come now to two appliances, the inventions of Dr. Guildford, which appeared in the March number of *The Cosmos*, and which far surpass all other attempts in this direction. They consist of two different kinds of clamps with a matrix made of thin ribbon steel common to both.

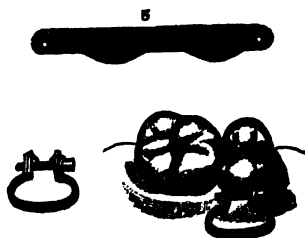
The first is for use where there is only one interdental space—that facing the cavity—and consists of a band of thin ribbon-steel, either straight or curved as may be required, on the upper edge, while the lower edge is depressed at a part corresponding with the cavity, sufficiently deep to cover its cervical margin. In length it should cover three quarters of the circumference of the tooth to

be treated, in fact, just long enough for the ends to reach a little beyond the greatest convexity on the buccal and lingual aspects and the ends are rounded, having a small round hole near each end to receive the clamp. (Fig. 4).



The clamp consists of a bar of steel having two short ends turned at right angles, the inner side of one end terminating in a conical point, while the other end has a screwed hole through which passes a screw also terminating in a conical point; indeed, one can best describe this clamp by saying, that it closely resembles a joiner's clamp. In applying it to the tooth, one point is inserted in the hole on the lingual end of the matrix, while the pointed screw engages in the buccal end and is screwed up to tighten. This appliance will do quite well for amalgam fillings, but it does not appear sufficiently secure for gold fillings.

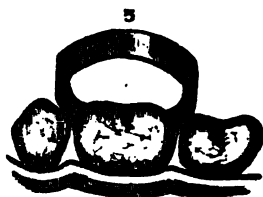
The second clamp, and by far the best, is for use in cases where the matrix passes almost entirely round the tooth in such manner that the two ends appear upon the buccal aspect of the tooth, while the general shape of the matrix remains the same as the preceding. (Fig. 5.)



This clamp is made of steel bent up to form a bow, and is in shape very much like the "Jews' harp" known to every school-boy, with the exception that the bow is filed thin to form a spring,

and the parallel arms are not so close together. These parallel arms terminate in small hooks facing each other, which enter the holes in the matrix, and behind the hooks there is a round hole in each arm, one screwed and the other plain, through which a screw passes which has a square shoulder near one end terminating in a square to fit a watch key, and which in screwing up causes the ends of the clamp to converge, thus tightening the matrix. As already stated, this is an efficient clamp, yet one cannot help remarking that the screw arrangement is mechanically defective, as its radius is very much limited, therefore requiring two different sizes for the molars and bicuspid, and it would be much more workmanlike if carried out in the same manner as the screw in spring dividers.

At the meeting of this Society held in Leeds in 1881, Mr. Brunton showed a very simple and, at that time, novel form of matrix, made of a band of ribbon steel to encircle the tooth, with the ends bent short back upon itself, and held in position by the contractile power of an ordinary molar rubber dam clamp. (Fig.



3.)* This has been and is now, I believe, much used by several gentlemen for plastic operations.

I now come more immediately to the subject of this paper, and here it is necessary to explain that Mr. Brunton and myself have been engaged for some time past in an attempt to work out a real solution of this problem, and I now propose to produce our results so far as we have gone.

In the first place the matrix proper is made of ribbon steel and in the same manner as Dr. Guilford's, so that it needs no further description, and we can confine our attention to the clamp which is the real difficulty.

* The clamp in Fig. 3 is incorrectly drawn, and the ends of matrix are not shown.

The first serviceable clamp we produced, now over twelve months since, consists (Fig. 6) of a steel screw three-quarters of an



inch long and about one-sixth of an inch diameter, with a square shoulder or collar near one end, which terminates in a square to fit a watch key. This screw passes through two cylindrical pieces of steel each surmounted with a hook, there being a plain hole through the one which is against the shoulder or collar while the other is screwed. The hooks, as in Dr. Guilford's device, enter the holes in each end of the ribbon steel matrix, and upon turning the screw they approach each other to tighten the matrix upon the tooth. This appliance worked very well, but it was soon seen that the hooks would not always remain in the same plane, and a further improvement suggested itself. To overcome this difficulty a sliding bar was added on the side opposite to the hooks and parallel with the screw, thus forming a miniature parallel vice, the hooks representing the jaws of the latter (Fig. 7).



With the idea of making the clamp lie closer to the tooth, a further modification was effected by altering the position of the sliding bar, so that, instead of being in the same plane with the hooks, it was placed at right angles to them as in Fig. 8. It is



difficult to say which is the better of the two, as they both have points to recommend them, and though Fig. 8 does not stand out so far from the tooth, it must be confessed that Fig. 7 is mechanically the more correct. Either of the above clamps is equally efficient with molar or bicuspid teeth, and they have been used for both gold and amalgam fillings with satisfactory results. In using this and all other matrices in which a screw is employed, an ap-

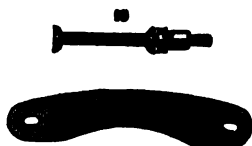
parent difficulty arises, viz., that the screw head is not always accessible with a straight key, and to provide for this we have inserted a steel spiral spring between the watch key pipe and the handle (Fig. 9). This works admirably and the key can be turned



while the handle is at right angles to it just as easily as if it were straight.

Mr. Brunton wishes me to introduce one other form of clamp before I conclude.

This is a straight steel bolt, with a head at one end, and a washer and nut at the other (Fig 10). The inner sides of the head



and washer are convexed to a hemisphere, that of the head taking more of an ovoid form to prevent its turning round when screwing up the nut, and the convexity is to make the matrix much more self-adjusting than it would be if the ends came against square shoulders.

The matrix is made of ribbon steel as before, but the holes at the ends are larger, slightly oval, and are eyeletted with copper to strengthen the steel at this part.

In using any ribbon steel matrix, there is still a place for the wooden wedge, and it will often be found advantageous to insert a wedge between it and the neighbouring tooth (if there is one) to drive the matrix well against the cervical margin, and if the wedge is previously dipped in mastic it will not work out.

This, gentlemen, is the sum total of our work, and I greatly fear that the dry details have wearied you ; but before concluding let me say that, as I have taken the liberty of freely criticising the ideas of others, I shall be only too pleased to have this latest contribution as severely handled, since it is only by exposing the weak points and ventilating the ideas of other minds that we can

ever hope to arrive at perfection, and if our efforts should stimulate anyone to work out further improvements in this direction, we shall be amply repaid.

I sincerely thank you for your very kind attention, and I shall be pleased to answer any questions or elucidate any points which may not be clearly explained.

HOSPITAL REPORTS AND CASES IN PRACTICE.

Note upon the Duration of Nitrous Oxide Anæsthesia in Dental Operations.

BY FREDERICK HEWITT, B.A., M.D. Cantab. M.R.C.S.Eng.

ADMINISTRATOR OF ANÆSTHETICS TO CHARING CROSS HOSPITAL AND TO THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN; ASSISTANT ANÆSTHETIST TO THE DENTAL HOSPITAL OF LONDON.

I do not propose, in the present communication, to deal with the intermittent administration of nitrous oxide; nor is it my intention to consider the various means which have been advocated for prolonging nitrous oxide anæsthesia, such as the nasal tube, the admixture of other anæsthetic vapours, the administration of the gas with oxygen under increased atmospheric pressure, &c. Given that nitrous oxide is the only available anæsthetic, and that one administration only is about to be conducted for a dental operation, the question arises: by what means can we obtain the best and longest anæsthesia after the removal of the face-piece? To the consideration of this question I shall restrict my present remarks.

In a previous communication,* I attempted to shew that the length of the anæsthesia following the inhalation of nitrous oxide, depends, to a very considerable extent, upon the method which is chosen for the exhibition of the gas. During the past few months I have been conducting the administrations at the Dental Hospital, sometimes by the ordinary method without the use of the "supplemental bag," sometimes by the method lately advocated by me in this Journal, and which, I believe, possesses advantages over all others. Desirous of instituting a more exact comparison between these two methods, I have, from time to time, asked

* See February, March and April numbers of this Journal: "An enquiry into several methods of administering nitrous oxide gas."

several gentlemen at the Dental Hospital to be kind enough to time the administrations; and I would take this opportunity of tendering my best thanks for the valuable assistance which I have received.

CASE OF EMILY YATES. ÆT 22.

Method of Administration.	Date.	Length of Inhalation.	Length of Anæsthesia after removal of face-piece.	Average lengths of Inhalation and Subsequent Anæsthesia.	
A. Ordinary method of administration: pure nitrous oxide inhaled at each inspiration and allowed to escape by expiratory valve: no "supplemental bag."	April 30	Secs. 60	Secs. 42	Average length of inhalation in the three administrations	Secs. 53
	April 30	55	35	Average length of anæsthesia (after removal of face-piece) in the three administrations ...	
	May 18	45	40		39
B. Nitrous oxide inhaled and exhaled by expiratory valve, till slight anæsthesia occurs; then, (by suddenly altering the action of the valves of the face-piece) the contents of the bag,* instead of being exhaled, are breathed into and out of the latter till deep anæsthesia results.	March 30	Secs. 87	Secs. 60	Average length of inhalation in the three administrations	Secs. 84
	April 6	90	55	Average length of anæsthesia (after removal of face-piece) in the three administrations ...	
	May 4	75	53		56

* This bag, corresponding to the ordinary Cattlin's bag, should hold about one-and-a-quarter gallons of gas, and should be fixed next to the face-piece, connecting the two-way stopcock of the latter with the tube from the gasometer. It is kept full during the first stage of the inhalation by the pressure from the gasometer. The gas from the latter is turned off at the same moment that the action of the valves of the face-piece is reversed—when to and fro breathing commences. For full details see *Journal of the British Dental Association*, March, 1886, p. 156.

Note on above Table.—In all cases the administration of nitrous oxide was pushed until irregular respiration with other jerky movements of the fingers or arms occurred. The gas employed was made at the Dental Hospital, and was administered under slight pressure from a gasometer. The same face-piece was used each time, and was accurately adjusted to the patient's face. In all the administrations the patient was perfectly quiet. The length of anæsthesia after the removal of the face-piece was calculated from the instant the latter

was removed to the moment at which the patient evinced some sign of returning consciousness. Amongst these signs were included: corneal sensibility (only relied upon if the cornea had been insensitive during inhalation), ability to sit up when asked to do so, disappearance of rigidity and fixed expression of face, and any evidence of feeling the operation such as cry or facial movement. At one or two of the administrations only one tooth was extracted, although the period of anæsthesia was sufficiently long for several other extractions; whilst on the other occasions the operations were more prolonged. Hence the signs of returning consciousness above given differed somewhat at each administration.

My case-book contains the name of Emily Yates, æt. 22, no less than six times during the past two months; and I venture to think that a short consideration of the gas administrations to this patient may be of some interest. The following table is intended to shew the results obtained by the two methods of inhalation already alluded to. It will be seen that on three occasions I administered nitrous oxide by the ordinary method (A); whilst, at the other three sittings, I employed the method which I have already fully described, and which is again briefly narrated (B).

Nitrous oxide anæsthesia, as is well known, is of the most variable duration; indeed, it is impossible to say in any case which has not been under previous observation, how long the patient will remain unconscious after the removal of the face-piece. *Ceteris paribus*, prolonged inhalation is, I believe, productive of prolonged anæsthesia. Not long ago I met with the record of a case in which, although air was rigidly excluded, the gas was continuously inhaled for three and a-half minutes, and the subsequent anæsthesia was of seventy-five seconds' duration. I have myself observed somewhat similar cases, and I believe longer periods of inhalation are on record. The other extreme, viz., short inhalation and transient anæsthesia, is by no means rare. It was principally with the object of obviating the latter class of case that I made trials of most of the known methods of administering nitrous oxide. Until quite recently, however, I have not had the opportunity of putting to the crucial test the advantages of the method which I have advocated. Observations bearing upon gas-administrations to different subjects are necessarily of secondary value as compared with those made upon the same patient, and I was therefore extremely pleased to be able to administer nitrous oxide to Emily Yates on six occasions. The results will be seen in the foregoing Table. At the more recent administrations I was able to predict with approximate accuracy the length of the anæsthesia.

It will be observed that the period of inhalation by method B was on each occasion longer than by method A, and a similar remark applies to the subsequent period of anæsthesia. I venture to consider it an established fact that the to-and-fro inhalation of the contents of a bag of nitrous oxide towards the end of the administration produces a subsequent anæsthesia decidedly longer than if the inhalation of pure nitrous oxide had been carried on from first to last. In this fact lies, I believe, the explanation of the advantages of method B, for the patient is enabled by this method to absorb more nitrous oxide, and the period of anæsthesia is therefore longer. Had the patient Emily Yates been much more susceptible to nitrous oxide, all the recorded times would doubtless have been shorter, but the advantages of method B would, in all probability, have been even more apparent, for whilst those patients who are very readily anæsthetised by nitrous oxide may be only able to inhale the gas for ten or twenty seconds, they would be able by method B to respire for a somewhat longer period, and hence the resulting anæsthesia would be lengthened and the unconsciousness more satisfactory in every respect. Method B is extremely simple; the administrator has to be on the watch for some definite evidence of commencing anæsthesia, and at the moment when this point is reached the rod of the face-piece is depressed and the tap of the gasometer (or key of the gas cylinder) is turned off, nothing more is required, and the usual signs of deep anæsthesia occur.

REPORTS OF SOCIETIES AND OTHER MEETINGS.

General Medical Council.

Wednesday, June 2nd.

DENTAL BUSINESS.

MR. FARRAR (Solicitor to the Council) brought up the opinion of Mr. Muir Mackenzie in regard to the removal of qualifications from the *Dental Register* on the withdrawal of such qualifications by the licensing bodies, and in regard to the case of H. F. Partridge, a licentiate in dental surgery of the Royal College of Surgeons in Ireland, whose diploma had been withdrawn by that body. The opinion, he said, was similar to that given by Mr. Muir Mackenzie with regard to the *Medical Register*, viz., that qualifications could

not be removed from it until the Council had satisfied itself that the withdrawal by the licensing bodies had not been in consequence of the adoption, by the practitioner concerned, of any particular theory of medicine or surgery. In the case of Mr. Partridge it appeared that the sole qualification possessed by him had been withdrawn, and that the licensing body had stated that the withdrawal was in consequence of his having—in violation of his undertaking given to the College—resorted to advertising in connection with the Ladies' Dental Institution, South Kensington. Mr. Mackenzie did not think it could be successfully contended that that ground of withdrawal was on account of the practitioner's adopting any theory of medicine or surgery. Accordingly he thought that the Council had power, and ought, to remove the name from the *Dental Register*. If the licensing body had exceeded its powers, the practitioner's remedy would be against that body.

The following report was presented by the Dental Committee:—

"The Dental Committee, having considered the case of Mr. Henry Francis Partridge, a Licentiate in Dental Surgery of the Royal College of Surgeons in Ireland, registered in the *Dentists' Register* on December 20, 1878, referred to the Committee by the General Council for inquiry and report, find that the following communication has been addressed to the General Medical Council:—

'Royal College of Surgeons in Ireland,

'Dublin, July 22, 1885.

'DEAR SIR,—Referring to your note of July 21, I am to inform you that the President and Council of this College have withdrawn the Diploma of Mr. H. F. Partridge, because of his having, in violation of his undertaking given to the College, resorted to advertising in connection with the Ladies' Dental Institution, South Kensington.

'A. H. JACOBS,

Secretary of Council.

'W. J. C. MILLER, Esq., B.A.'

"The Dental Committee report these facts to the General Council."

The Council deliberated on the case of Mr. Partridge in private. On the re-admission of the public,

The PRESIDENT stated that the Council had decided: That the qualification of Licentiate in Dental Surgery of the Royal College of Surgeons in Ireland, appended to the name of Henry Francis

Partridge be erased from the *Dentists' Register*; that the name of the said Henry Francis Partridge be also erased from the *Dentists' Register*.

The Registrar was directed to erase the name and qualification accordingly.

Mr. MARSHALL moved: "That Mr. Muir Mackenzie's opinion in regard to the removal of qualifications and names from the *Dentists' Register*, on the withdrawal of such qualifications by the licensing bodies, be referred to the Executive Committee, with a view to their proposing to the Council such form of standing orders as they may think desirable to provide for the procedure of the Council when dealing with questions of the kind."

Mr. SIMON seconded the motion, which was agreed to.

Thursday, June 3rd.

SIR HENRY ACLAND, President, in the Chair.

DENTAL BUSINESS.

Application was received from the Hon. Secretary of the British Dental Association to prosecute certain individuals for infringement of the Dentists Act, and leave was granted accordingly.

Mr. MARSHALL moved "That the following communication from the Registrar-General of New Zealand be received and entered in the Minutes:—

Erasures from *Dentists' Register*, N.Z., to 21st December, 1885.

"SINCLAIR LOUIS, registered as Lic. Dental Surg. Roy. Coll. Surg. Ireland, 1882.

"Name erased from Register in pursuance of sec. 5, 'Dentists Act Amendment Act, 1881.' 9th December, 1884."

The diploma presented was dated 19th June, 1882. It was found afterwards that no diploma was ever issued in the name of Louis Sinclair, but on the above date one was issued in the name Louis Sinclair *Schlesinger*.

"I certify that the foregoing is the only name erased from the *Dentists' Register* of New Zealand, under the provisions of sec. 5 of the 'Dentists' Amendment Act, 1881.'

"*Registrar General's Office,*
"Wellington, 4th Feb., 1886."

"WM. B. T. BROWN,
"Registrar-General, N.Z."

The Odontological Society of Great Britain.

A MEETING of the Society, the last of the session 1885-86, took place at 40, Leicester Square, on Monday, the 7th inst. In the absence of the President, Mr. Charters White, from illness, Mr. GEORGE GREGSON, the senior Vice-President, occupied the chair.

Mr. STORER BENNETT exhibited a model which had been presented to the Society's museum by Mr. Wilson, of Edinburgh; it showed three bicuspid teeth on each side of the lower jaw. The patient's dentition had been at first normal, but the right first molar having to be extracted, a supernumerary bicuspid appeared in its place, and several years afterwards the same thing occurred on the left side; the extracted molars were large, with well developed roots. There was also a supernumerary tooth on each side of the upper jaw outside the first and second molars.

Dr. ST. GEORGE ELLIOTT shewed three forms of Bunsen burner adapted to dental requirements. One, with a very short tube, he used for annealing gold; another, with a detachable tube to facilitate cleaning, he used for waxing up; whilst the third could be used either as a Bunsen or as an ordinary burner, or for the blowpipe.

He next showed some nerve drills, made in three sizes, with triangular corrugated points which were easily sharpened on a common oil stone.

Lastly, he invited members of the Society to pay him a visit any day after 5 p.m. to inspect his arrangements for working his dental engine, lathes, &c., by means of a one-horse power Otto gas engine. The engine was placed at some distance from his operating room, the power being communicated by means of a band working under the floor and controlled by pressure of the foot on a lever. It consumed about five cubic feet of gas per hour, the cost therefore being about a farthing an hour.

Mr. BRUNTON (Leeds) showed an adaptation of the dental engine which would, he thought, be very acceptable to those who were unfortunate enough to suffer from "dentist's leg." The operator could sit and work the engine with either right or left foot at pleasure.

He showed also the syringe which he used for injecting cocaine before extracting molar and bicuspid teeth. For the last two months he had used benzoate of cocaine, which unlike most of the other salts of cocaine, was perfectly stable in solution and not

liable to the fungous growth which was usually so troublesome. He used a solution of the strength of one in eight, and had not yet met with any unpleasant effects from it.

In reply to a question as to what quantity he had injected, Mr. Brunton replied that he had in some cases injected two and a-half or nearly three grains without causing sickness, and in one case, a patient much given to alcohol for whom he extracted ten teeth at a sitting, he injected nine grains of benzoate of cocaine without any bad results. He found that the effect usually passed off in about ten minutes.

Mr. W. E. HARDING (Shrewsbury), showed the calcified crowns of an upper second bicuspid and first molar, which he had removed from the mouth of a boy, aged six; they were loose and surrounded by suppuration. Their temporary predecessors had been extracted by a doctor nine months before; but for twelve months before that the boy had suffered from alveolar abscess in this situation, and the result of the long-continued inflammation and suppuration had been the death of the permanent teeth. He (Mr. Harding) thought this showed the danger of allowing teeth to remain in the mouth under these circumstances; had they been extracted sooner the permanent teeth might have been saved.

Mr. HUNT (Yeovil), showed a model of the upper jaw of a boy aged sixteen, who had consulted him some time since with reference to his central incisors which were large and very disfiguring. Mr. Hunt did not feel justified in doing anything, but one of them subsequently became carious and was extracted by a doctor, and a short time afterwards a very good well-shaped central appeared in its place. Mr. Hunt then extracted the other in the hope that the same result might follow.

He also made some remarks on the use of cocaine previous to extractions. He had used it pretty extensively for some months past, and with very satisfactory results. He found that in the great majority of cases the injection of one grain was sufficient; only in three cases had he found it necessary to exceed this quantity, and he had never used more than a grain and a-half. The needle must be inserted deeply and the fluid injected slowly, keeping the needle in the wound for a short time; if it be removed at once a considerable portion of the solution will escape through the puncture. He found that if the fluid was properly injected he could make sure of a definite result, but he had not yet happened to come across a bibulous patient.

The SECRETARY showed a geminated upper lateral and supernumerary tooth, extracted from the upper jaw of a boy aged eight, sent by Mr. J. B. Bridgman, of Norwich, for the museum, and Mr. Hepburn showed a specimen of osseous union of two molar teeth sent by Mr. Tod, of Brighton.

Mr. J. W. GROVES, curator of the Museum at King's College, London, then read the paper of the evening, on "Practical Microscopy in its application to Odontology." Mr. Groves described in detail the various methods of softening the hard tissues and hardening the soft, then of cutting sections, and staining, clearing, and mounting them. He showed and explained the action of the principal microtomes and other apparatus used in preparing and mounting specimens, and gave the particulars of a number of useful formulæ. The meeting having taken place within a few days of going to press, we propose, instead of giving a hastily written abstract, to publish the paper in full next month, after its appearance in the Society's Transactions.

A short discussion followed in which the Chairman, Mr. A. Underwood, and Dr. Cunningham took part.

Mr. Groves having replied, the Chairman proposed a vote of thanks to him for his very interesting and instructive demonstration, and also to the contributors of casual communications, and announced that the next meeting of the Society would be held on Monday, November 1st, when it was hoped that Dr. Dudley Buxton would read a paper on "the Physiology of Nitrous Oxide," in continuation of that which he read before the Society in March. The meeting then terminated.

REVIEWS AND NOTICES OF BOOKS.

CANCER OF THE ALIMENTARY TRACT, by F. B. JESSETT, Surgeon to the Cancer Hospital, Brompton. J. & A. Churchill.

It frequently happens that the dentist is the first person who has the opportunity of seeing malignant disease in the mouth, and it is therefore of especial importance that he shall have such an acquaintance with the subject as shall on the one hand enable him to avoid giving his patient unnecessary alarm, and on the other shall ensure his giving a needed warning in the earliest stages, the only ones in which treatment has any prospect of success.

Out of 860 cases of epithelial cancer, Mr. Jessett states that no less than 160 occurred in the lips, 190 in the tongue, and 17 in other parts of the mouth, so that one third of this whole number might well have been under the notice of a dental surgeon at a period before the sufferer would have attached any importance to them, and a work like that now under review has a great interest to dentists on that account.

"Cancer in the lips is often the result of cracks or fissures, and in such cases the importance of early diagnosis cannot be over-estimated, as it is only by recognising this terrible disease in its early stage that a satisfactory result can be insured by treatment, although cancer of the lip often commences thus . . . it far more frequently has its origin as a warty growth or tubercle, which gradually ulcerates like the ordinary form of tubercular lupus."

The author lays much stress upon age as an element in the diagnosis, the fiftieth year being about the favourite period for its onset, as was shewn by Sir James Paget's statistics; thus cracks and fissures of a perfectly harmless nature attack young people mostly, in or about the middle of the lower lip, and readily yield to an alterative and nitrate of silver applied once or twice, but a persistent crack in middle life must always be looked upon with suspicion.

But the cauterisation of a suspicious ulcer on the lip the author very properly condemns in strong terms. The writer of this notice has recently had under observation a case in which time was thus frittered away and the patient's chances of life, perhaps not very good anyhow, lost by the persistence in this treatment by a general practitioner long after the nature of the disease should have been obvious.

Epithelioma affecting the gums, which is often the result of local irritation is very insidious in its commencement. Mr. Jessett gives a very good account of it, but, perhaps, lays rather much stress upon pain as a diagnostic point. It is not unusual for the absence of pain to be one of the surgeon's difficulties in the way of inducing the patient to submit to an operation, the gravity of which seems to him out of proportion to the ailment which he is cognisant of, when the disease originates in the alveolar border, but no such exception can be taken to the statement that when the disease springs from the antrum or other deeper part pain is an early and a prominent symptom.

Due stress is laid upon the difficulty of distinguishing between syphilitic ulcerations and those of really cancerous nature, and sometimes an ulceration in the mouth having every appearance of malignancy will yield to a course of iodide of potassium and mercury. Mr. Jessett advises when an epithelioma affects the alveolus in the molar region, the removal of the entire half of the jaw rather than a more limited operation with saw and chisel, and this view is held also by Mr. Heath.

Of course recurrence is so frequent that the surgeon will hardly err by going wide of the disease, yet very good results may be sometimes got by a more selective removal of bone. For instance, the present writer has under frequent observation a patient, in whom epithelioma arose in the socket of a second upper molar, which had been extensively built up some three years before in Boston. At the time of the operation the whole tuberosity and the pterygoid process were involved, and a surgeon distinguished for his operative dexterity had even advised that no operation should be performed, believing that the disease could not be wholly removed. Sir Joseph Lister, however, removed the diseased mass, incising the cheek freely to get a good view, but cutting away bone only to the extent of getting well beyond the invaded tissues. The operation was necessarily more protracted, and there is a long scar, which, however is wholly hidden by the whisker. To the dentist however, the especial interest of the case lies in the fact, that though the tuberosity, the pterygoid process and a large piece of the palate as well as the floor of the antrum were taken away, there now remains an excellent foundation for a plate, the hole which has firm round edges, being no larger than a shilling.

Space precludes us from quoting more largely from this work, which we can cordially recommend to our readers as containing much that will interest them, but we may add that in the chapter relating to cancer of the tongue, much importance is attached to the influence of rough teeth and of tartar in starting it, as well as to the irritation produced by badly fitting plates.

The author deprecates the practice of cutting off and leaving stumps, believing that they keep up an irritation, and eventually have to be removed, letting the plate fall down lower into the mouth, and oftentimes so causing its edges to cut into the gums; he is convinced that he has seen many cases of epithelial cancer originating in this way. He instances one case in which it origi-

nated from a plate carrying two lower incisors, which was never removed from the mouth; the plate was thickly crusted with tartar, and the gums all around were greatly inflamed. In this connection it may be mentioned that the pressure of an otherwise comfortable and well-fitting plate upon the inflammatory swelling arising from a gum-boil due to a stump underneath, will produce an ulcer of the most formidable appearance, which would probably be at once pronounced by anyone who saw it and did not recognise the immediate cause as an epithelioma, though with the removal of the stump and the subsidence of the swelling the ulcer will at once disappear.

MINOR NOTICES AND CRITICAL ABSTRACTS.

Abstracts of the Erasmus Wilson Lectures on Evolution in Pathology.

By J. BLAND SUTTON, F.R.C.S.

ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL, AND LECTURER ON
COMPARATIVE ANATOMY.

(Continued from page 243.)

Lecture III.—The Etiology of Neoplasms.

It is necessary to adopt some rigorous limitation to the term "tumour," or else to choose a name which shall enable us to discriminate between true tumours and other diseases with which they have been classified.

A neoplasm might be defined as a new growth characterised by histological diversity from the matrix in which it grew; it was distinguished from inflammatory new formations by the variety of its forms, and mode of origin, and the frequent inherent tendency it had to increase. This definition excludes hyperplasia of organs, infective granulomata, &c. With regard to the histological diversity exhibited by a neoplasm, it should be mentioned that it might more or less resemble the matrix tissue, but certain features were always to be detected whereby its heteroplastic nature could be demonstrated. Few subjects have exercised the ingenuity of pathologists more than the etiology of neoplasms. No exclusive theory could explain the causation and mode of origin of all known neoplasms; indeed, the various groups required separate consideration. The embryological method of grouping neoplasm was the best, especially with respect to etiology, the histological

details being left to determine varieties. The mesoblastic group included the connective tissue neoplasms; the epiblastic and hypoblastic group comprised adenomata, carcinomata, and papillomata; the teratomatic neoplasms, containing tissues derived from all three embryonic layers, formed the third group.

Cohnheim's theory, which ascribed the origin of neoplasms to persistent rudiments, was, of all hypotheses, that which had most to recommend it, if the term "tumour" were used in its most restricted meaning. Throughout the lecture, the expression "germinal rudiment" was used in a more extended sense than that in which Cohnheim employed it. The question as to whether germinal rudiments, such as Cohnheim's theory demanded, existed, and whether there were any evidence to show that such germs might become tumours, was discussed. The origin of true cysts from functionless ducts and tubules was an indisputable fact; it was proved by the cystic dilatations of the tubules comprising the parovarium, paradidymis, and duct of Gartner, in man and animals. The lecturer did not see why the origin of solid neoplasms from foetal rudiments should be doubted, especially if such untransformed tracts of tissue could be demonstrated unequivocally to be heteroplastic in their nature. It was certainly demonstrable that, in the regions where particular tumours were more prone to occur, there was embryological testimony to explain why they occurred there. An epithelioma on the lip was what would be expected, but a similar growth starting in the midst of a block of cartilage would be incomprehensible. A piece of cartilage in the midst of the shaft of a femur of a boy, aged five years, was cartilage in the wrong place; nevertheless, such islands were to be met with on careful search. Their existence had been known for some years, and, as Virchow was the first to point out, they might in later life become the starting point of enchondromata. The lecturer had examined very many of these cartilage-islands, especially in connection with the epiphyses and diaphyses of long bones in rickety animals. These examples proved that embryonic rudiments of enchondromata existed, and also threw light upon the evolution of neoplasms.

In the fact that at an early age the human skull was mainly cartilaginous, man agreed with the cartilaginous fishes, whose skulls never advanced in development higher than cartilage, impregnated with salts of lime. In the osseous fishes and amphibians, the overlying bones gradually brought about absorption

of the cartilage in different places ; but much existed throughout adult life, and even in the skulls of adult mammals traces of this important matrix-tissue remained. Frequent spots for the existence of these belated rudiments were the region of the asterion immediately posterior to the external auditory meatus, the neighbourhood of the nasal fossæ, the septum nasi, the lower jaw and the vertebræ.

These regions were favourite situations for enchondromata and osteomata, the latter being simply a higher development of an enchondroma. If a cartilage-island were discovered, it would be impossible to say, supposing it to develop into a neoplasm, whether it would become a cartilage or an osseous neoplasm.

Moles and nævi might be regarded as tumour-germs. Many instances were on record where a small nævus, untreated in early life, formed later an angioma of considerable dimensions, and became a source of danger. All germs or rudiments did not become tumours. Three courses were open to them. 1. They might, later in life, undergo transformation into normal tissue. 2. They may remain quiescent throughout a long life. 3. Irritation might stimulate them into abnormal activity. As to what constituted irritation in this sense, nothing was definitely known. Admitting the origin of enchondromata, osteomata, and angiomata from rudiments, we need hardly doubt the origin of other varieties of mesoblastic tumours from similar sources. They were always confined to regions of the body where the elements of which they were composed were to be unequivocally demonstrated.

The lecturer believed that very many cases of round-celled sarcomata were not genuine neoplasms, but the result of irritation by micro-organisms. It was always necessary to make sure whether a given growth composed of round cells were a sarcoma or the result of a specific irritant, especially if there were more than one growth present. Observations on animals have made Mr. Sutton very sceptical regarding round-celled sarcomata. Mr. Pearce Gould had recently analysed the relation which appeared to exist in very many instances between an injury and the appearance of a sarcoma, and had collected a goodly list of cases, in support of the view, in a paper read before the Medical Society in 1885. In animals, the lecturer found that sarcomata were detected with greatest frequency in parts most exposed to injury. In fishes, the tails and fins ; in frogs, the limbs ; in birds, the neck and prominent parts of the wings, were the parts most affected ;

in horses, sarcomata followed blows on the jaws ; and a sarcoma might develop on the head of a cat after a blow from a stick ; and in one case of an ox which broke its horn, a huge sarcomatous neoplasm subsequently developed from the corneous stump. Careful examination of some of these cases seemed to support the notion that, after the injury, the inflammatory tissue, or tissue of repair, exceeded normal limits, developed erratically, and played the part of a tumour-germ.

The second group of neoplasms contained, in addition to mesoblastic tissue, epithelial elements, derived from either the epiblast or the hypoblast ; and in their structure they more or less resembled glands. If the resemblance were close, the neoplasm was termed an adenoma, and the cells clothed the alveoli in a regular manner ; but if the cells were merely tumbled in confusion into the alveoli, it was called a carcinoma. It was necessary to discriminate between hyperplasia of a gland and a glandular neoplasm. The latter was important to produce the secretion normal to the gland. Another feature connecting the carcinomata with the secreting glands, was the relation to blood-vessels. The cells of which a gland was composed did not come directly into contact with the blood-vessels, but were separated from them by lymphatic spaces. It was well known that the cancers were poorly supplied with blood, but contained an abundance of lymphatics. Further, cancers in their mode of development mimicked glands. Glands commenced by a downgrowth of epithelium from the epiblast, or hypoblast, as the case might be, into the deeper layers of the mesoblastic tissues beneath. This might be well seen in a section of a foetal thumb, at the fourth month of intra-uterine life. The sweat-glands appeared as little flask-shaped diverticula. This might be taken as a type of gland development generally. If, later in life, irritation, local or otherwise, affected the tissue, abnormal epithelial growths might occur, and rising above the general level, might produce a wart or dipping into the subepithelial tissues, as in the early stage of gland-formation ; but failing sufficient formative energy, either from decline of vigour or general constitutional debility, the new tissue might never develop functionally, but, running riot, could originate tissues of low vitality, carcinomata. Such ingrowths might occur in the neighbourhood of any gland, mucous, sebaceous, mammary, or others, as diverticula from the acini, and according to the arrangement and variety of the cells and stroma, so they might be termed

epithelioma, scirrhous, or encephaloid. These abnormal down-growths of epithelium were tumour germs, in the same sense as the cartilage-islands in a long bone.

Young trees brought forth the best fruit, because in them vigorous growth was at an acme; when this faded, then that which was inferior was produced; so with glands, and hence the greater frequency of cancer in age. Irritation in the young produced papillomata, in the old, cancer, even in animals, where warts were common in youth, but cancer amongst them was an extremely rare affection. In the third group of neoplasms, their elements were derived from the three germinal layers, epiblast, hypoblast, and mesoblast. They were conveniently styled by Virchow, teratoid tumours. They were always congenital and composed of a great variety of elements. They might contain fibrous tissue, bone, cartilage, muscle, skin, hair, nerves, glands, or indeed any tissue. Teretomata were especially liable to occur in those situations where the three blastodermic layers were brought into direct continuity with each other during foetal life, but the connection was only temporary. The positions of these temporary unions were often indicated by a passage which might exist for a longer or shorter period in the embryo, constituting what the lecturer termed an obsolete canal or passage, that is, canals which in the ancestors of mammals were functional, but reappeared for a time in existing forms, in obedience to the great law of heredity. Amongst these obsolete canals were the curious recess at the top of the pharynx, which brought the infundibulum of the third ventricle into relation with the buccal involution; the neurenteric passage which brought the central canal of the spinal cord and the alimentary canal into relation round the caudal end of the notochord; the postanal gut, and the branchial arches. The developmental history of the testis, ovary, and Wolffian duct, supported the same view.

Teratomata occurring in the sacral region were not a simple group; and Braune's observations long ago proved that some of the cystic forms were connected with the spinal canal, and lay posterior to the coccyx, whilst others lay anterior to that structure. Braune also pointed out that the cystic teratomata connected with the spinal canal were due to dilatations of the spinal meninges; in fact, a spina bifida. Those anterior to the coccyx were, according to Braune, to be regarded as an abnormal growth of Luschka's gland. It was far more reasonable, however, to believe

that these growths originated as abnormal dilatations of the postanal gut, a section of the alimentary canal which, for a certain period of embryonic life, existed posterior to the anus, in man, and very many if not all, vertebrata. The minute structure of

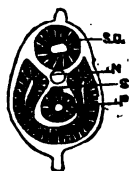


Fig. 1.—Section to show the relation of the postanal gut, P. S.C., spinal cord. N, notochord. S, subnotochordal rod.

this variety of teratomata agreed, in every particular, with the histological details of this section of the gut. With regard to those cystic sacral tumours connected with the meninges, it was not always that, after birth, the continuity of the cystic interior with the spinal canal could be made out, as in a case reported by Virchow. A negro child, a few days old, presented a tumour on the left buttock to one side of the middle line (Fig. 2). It was removed

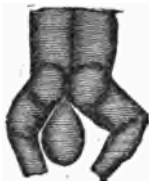


Fig. 2.—The buttocks of a negro child with a congenital tumour.

by a surgeon, Dr. Ludwig Wolff, in Central Africa, who believed it to be a lipoma. After examining the tumour, Virchow came to the conclusion that, notwithstanding its lateral situation, it was, in reality a diverticulum from the spinal meninges (Fig. 3). At the opposite end of the notochord similar conditions existed. There might be a hernia of the spinal meninges through the floor of the sella turcica, or there might be a tumour containing skin, hair, nerves, muscle-fibre and the like. In the neck, in association with the branchial arches, cysts, or, in rarer cases, tumours composed of complex elements, were developed.

The same was equally true of the ovary and testes. They arose

in connection with the genital ridge, and, at a certain period of their development, were in intimate association with the peritoneal epithelium, and, for a time, were connected with it by a series of curious canals known to embryologists as the peritoneal funnels. In addition to this, the Wolffian duct at its commencement lay closely associated with the epiblast. Thus teratomata were not a mere group of curiosities, but a class of neoplasms full of interest. They arose from pre-existing tubules or ducts, which, in the normal development should become obliterated, but they might in foetal life dilate, and become mixed with various other tissues in

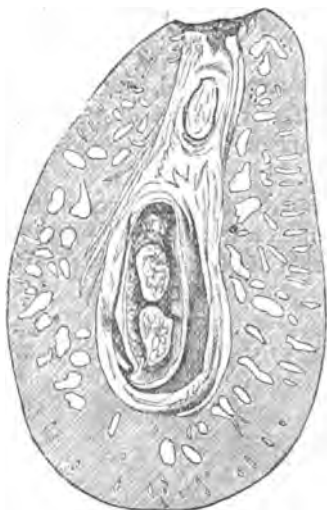


Fig. 3.—Section of tumour seen in the preceding figure.

their immediate neighbourhood; and as they lay on the borderland of mesoblastic, epiblastic, and hypoblastic elements, they became incorporated with them, and formed in many instances amorphous masses, and constituted some of the most powerful witnesses to Cohnheim's theory of "tumour-germs."

The relation of the teratoid tumours to obsolete canals was illustrated in a very striking manner in the tongue. Professor His had recently given a full account of the development of that organ, and described in detail the formation of a canal which ran from the foramen cæcum on the dorsum of the tongue downward

to the third branchial arch, and finally ended in the vesicle or follicle from which the middle portion of the thyroid gland took origin. Later, the canal became divided into parts; the one in connection with the tongue was known as the lingual duct, and terminated in the hollow of the hyoid bone. It might occasionally be demonstrated in adult life between the genio-hyo-glossi; in this situation dermoid cysts occurred. The lower portion of the duct, known as the thyroid duct, might sometimes be detected in those cases where a middle lobe to the thyroid body existed. The structure and mode of development of that ductless gland closely



Fig. 4.—Congenital cervical cyst, extending into the axilla (after Smith).

resembled those congenital coccygeal tumours which lie anterior to the coccyx in association with the alimentary canal, in their origin in a functionless tubule, and in their structure consisting of vesicles lined with cubic epithelium, and bound together by cellular tissue.

Congenital cervical cysts, as Mr. Thomas Smith had well pointed out, always lay beneath the deep cervical fascia; they might be unilateral, or involve the lateral and anterior regions of

the neck, follow the deep fascia, and extend into the axilla, or, in rare cases, for a little distance into the mediastinum. Cases of this nature had been described and figured by Messrs. Birkett, Hutchinson, Smith, and Treves. The cyst might extend at times into the axilla. In some of the lower animals, especially the chimpanzee and howling monkeys, a very large subfascial air-sac, connected with the larynx, extended from the hyoid bone to the manubrium sterni, and laterally under the posterior triangles even into the axilla. The cysts in the human subject agreed in anatomical details with the cervical sacs of the monkeys in such a striking manner, that Mr. Sutton was of opinion that these cysts repeated certain simian characters. (Fig. 4.)

In conclusion, it seemed impossible to escape from the conviction that any one ambitious of becoming a scientific pathologist, must first be a sound human anatomist; he must also acquire a tolerable knowledge of comparative anatomy, and keep well abreast of the teachings of embryology. Having attained a competent acquaintance with these subjects, he would then, in spite of himself, become a firm believer in the fundamental principles of the grand doctrine of evolution.

Researches on the Physical Properties and Chemical Composition of the Teeth, and on the Relationship between their Resisting Powers in Health and Disease, with the Modifications of Nutrition.

BY M. LE DR. C. V. GALIPPE.

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IN the seventh and last chapter, Dr. Galippe discusses the normal chemical composition of the teeth. A tooth consists of much the same elements as a bone; both contain similar organic and inorganic principles, but the amount of ash which results from the incineration of teeth is greater than that produced by the incineration of bone. Fremy stated that the composition of cementum is the same as that of bone, viz.: 67.1 of ash, 60.7 being phosphate of lime, 1.2 phosphate of magnesia, and 2.9 carbonate of lime.

Bibara gives for human cementum 29.42 organic matter, and 70.58 inorganic matter. Notwithstanding the difficulty of separating enamel from dentine in the human tooth, Hoppe-Seyler

makes some statements about the chemical composition of the former. It is rich in mineral, poor in inorganic matter. While in process of formation, however, it contains a good deal of inorganic matter. It does not yield albumen, but only a slightly alkaline fluid, some chlorides, and traces of sulphates. The same observer has demonstrated the presence of carbonates in embryonic enamel. According to Aeby, enamel only contains phosphate of lime, and not the combination of phosphates and carbonates.

According to the following table (Aeby), we see that the proportion of caustic lime is much greater in dentine than in enamel after incineration :—

COMPOSITION OF THE DENTINE OF THE OX. (AEBY).

Constituents of 100 parts.					Dentine.	Enamel.
Phosphate of Lime	...	...	...	...	91.32	93.35
Lime	...	...	...	...	5.27	0.86
Carbonate of Lime	...	...	...	...	1.61	4.80
Carbonate of Magnesia	...	...	...	...	0.75	0.78
Oxide of Iron	...	...	...	...	0.10	0.09
Sulphate of Lime	...	...	...	...	0.09	0.12
Organic matter	...	...	...	...	27.70	3.60

COMPOSITION OF ENAMEL. (HOPPE-SEYLER).

Nature of the Elements.	New-born Child.			Young Pig.	Adult Pig.	Horse.	Dog.	Fossil Rhinoceros.	Fossil Elephant.
	1	2	3						
Inorganic matter.....	77.71	84.41	84.57	90.29	97.94	95.26	1.00	96.84	95.46
Organic matter	22.29	15.59	15.43	9.71	2.06	4.74	...	3.16	4.54
Phosphate of Lime.....	67.73	75.23	76.39	82.43	85.31	84.20	89.44	85.54	82.55
Carbonate of Lime.....	8.41	7.18	6.00	6.71	8.97	9.17	5.39	7.78	8.38
Chloride of Lime	trace	0.23	...	0.46	0.62	0.66	0.80	0.65	0.44
Phosphate of Magnesia...	1.57	1.72	1.08	1.62	2.00	1.33	4.96	1.63	2.01
Phosphate of Iron .....	...	0.63	trace	0.92	0.89	...	...	1.81	0.54
Salts, soluble in water ...	...	0.35	...	0.24	0.15	...	...	0.01	trace

In the analysis of the enamel of mastodon and Palæotherium, a certain amount of oxide of iron has been demonstrated. Enamel contains very little water, whereas dentine contains about 10 per cent.

Berzelius gives about 4 per cent. of fluoride of calcium in enamel, Hoppe-Seyler 2 per cent. at the outside.

According to Lassaigne and Bibra the molars contain a little more salts than the incisors. The different classes of the animal

world do not show any great differences in chemical composition, but the elephant and the stag seem more richly provided with organic matter, and the teeth of the pachydermata contain about 12 per cent. of phosphate of magnesia.

According to A. Gautier, the proportion of carbonate of lime is the principal point of difference in the chemical composition of teeth and bone.

The composition of the teeth of man and of the ox is, according to Berzelius, as follows :

	Man.	Ox.
Organic matter	28	31
Phosphate of lime and fluoride of lime	64.5	63.15
Carbonate of lime	5.3	1.38
Phosphate of magnesia	1	2.07
Soda and chloride of sodium ...	1.40	2.40

The following is Bibra's analysis of the human tooth.

	Man.	Woman.
Cartilage N.	7.61	20.42
Fat	0.40	0.58
Phosphate and Fluoride of lime	66.72	67.54
Phosphate of magnesia	1.08	2.49
Carbonate of lime	3.36	7.97
Other salts	1.4	1.00
	100.00	100.00

Dr. Galippe's own analyses were made from twenty-nine teeth taken from different mouths, their mean density was about 2.103 and none were carious; no doubt these teeth were a little above the average in density.

Adult Teeth.

Water and organic matter	25.287
Mineral matter	74.713
Soluble ash (alkaline chloride and slight traces of phosphates)...	0.5428
Carbonate of lime...	0.3586
Carbonate of magnesia	1.1332
Lime	45.119
Magnesia	1.671
Phosphoric acid	23.749
Silicates	0.414
Other substances (lost &c.)	1.7254

In the milk teeth the mean density was 1.93, the teeth analysed were not carious.

Milk Teeth.

Water and organic matter...	...	...	30.978
Mineral matter ...	...	...	69.022
Soluble ash (alkaline chlorides and slight traces of phosphate) ...	...	...	0.5935
Carbonate of lime ...	...	...	0.5797
Carbonate of magnesia ...	...	...	0.9248
Lime ...	...	...	41.280
Magnesia ...	...	...	1.4094
Phosphoric acid ...	...	...	22.7658
Silicates ...	...	...	0.408
Other substances (lost, &c.) ...	...	...	1.0508

Hence, the milk teeth contain more organic matter and less mineral matter than the permanent teeth, besides containing more carbonate of lime and carbonate of magnesia, which gives them a still greater vulnerability.

This explains why the milk teeth, and especially those of fine-skinned, fair-haired children, are so liable to caries; the troubles of nutrition, so frequent at this age, having a direct influence upon both the osseous and the dental systems.

On the presence of iron in the Teeth.

Dr. Galippe then proceeds to investigate whether the presence of a certain number of elements, such as iron, silicium, fluorine, in the teeth is normal.

Phosphate of iron had already been remarked in fossil teeth by Hoppe-Seyler, and M. Galippe, himself, had mistaken a mixture of phosphate of lime and magnesia for phosphate of iron. In reality, iron exists in such very small proportions that it is impossible to estimate it, although its existence can be detected by means of very delicate re-agents.

This is especially true of the teeth of the adult and aged, but in permanent teeth shortly after their eruption, when the pulp has a considerable volume, or in milk teeth, a quantity of iron is found in proportion to the quantity of blood contained in the vessels of the pulp. The slight traces of the metal that are found in adult teeth have the same origin.

On the presence of Silicium in the Teeth.

The physiological value of silicium is not yet perfectly under-

stood. Its presence has been remarked in the blood, in the bile, in the urine, and in the egg. The tissues of the lower animals contain very notable quantities, as do also the tissues of certain vegetables. Wheat, and corn in general is known to contain a considerable proportion of silicium. It has even been remarked that corn suffers more from the wind when grown on a soil poor in silicium.

Although the osseous system must contain a considerable quantity, those writers who have made analyses of bone have not noted its existence, or at least have not laid much stress upon it.

If the presence of silicium in the organism is an established fact, it is not known in what state it was assimilated and in what state it is contained in the tissues.

Messrs. Friedel and Ladenburg (Bull. Société Clinique, 1867), have shown that silicium may be substituted for carbon in organic combinations.

M. Grimaldi has observed that silicic acid dissolved in water appears to be decomposed by the green parts of the plants under the influence of sunlight, with a liberation of oxygen. It may, therefore, be supposed that the silicium exists in the tissues in the state of organic combination, susceptible of decomposition.

Chemists are particularly interested in the existence of silicium in the hair, and particularly in the feathers of birds. As regards birds, their alimentation sufficiently explains the presence of silicium in their feathers. Corn contains a great quantity of silicium (Gorup-Besanez) and the feathers of the grain-eating birds contain more silicium than those of insect-eating birds.

Wheat also contains silicium and especially in the husk. Hence there is more silicium in bran meal than in flour. It is very probable that it is by means of bread that we mostly introduce silicium into our economy. Silicium it would seem plays, in the constitution of bird's feathers, a part analogous to that of calcareous elements in the osseous tissue (Gorup-Besanez). M. Polek has noted the remarkable fact that there is in the ashes of the white of egg, an actual reserve of silicium; as much as 7 per cent. may be found. Hair contains almost as much silicium as the feathers with which it is most analogous from both a histological and a physiological point of view (Gorup-Besanez). If these facts are appreciated, the presence of silicium in teeth appears quite natural.

As may be seen from the following results of analyses made by

M. Galippe, silicium which is present in all the teeth is not so in equal quantities.

<i>Fresh Teeth:</i> Incisors.	Silicium =	0.373	per 100
Canines.	„	= 0.394	„
Molars.	„	= 0.439	„

consequently, silicium is the more abundant in those teeth whose physiological activity is greatest.

Silicium forms part of the mineral elements that give solidity and resisting power to the tooth. It may be that the proportion of silicium contained in the teeth is affected by nutrition and augmented by age, but these are hypotheses that have not been verified. And if one considers the slight proportion of silicium contained in the teeth, which is always less than 0.50 per 100, and nearly the same in the permanent and in the milk teeth, it appears that silicium, at least in the teeth, should be considered as the satellite of the mineral elements which form the inorganic framework rather than as an actual element of resistance.

When the teeth have long remained in the ground, they may contain a greater proportion of silicium. Thus M. Galippe found a proportion of 0.48 per 100 in the teeth in a bone-collection in the Marqueses Islands and those given him by his colleague and friend Mr. Hamy.

Examination of the Fluorine in Teeth.

Fluorine exists in the bones; its presence has also been remarked in fresh teeth, but in an extremely small quantity. After having failed in several attempts in following the lines prescribed for the research of fluorine, M. Galippe succeeded in recognizing, with M. Bruhat, its presence in the teeth by the decomposition of the fluoride of silicium in water after the following reaction :



He experimented upon thirty grammes weight of fresh teeth, all of which were molars.

After the total destruction of all organic matter by calcination, the ashes, finely pulverised, were placed in a small leaden receptacle with a narrow opening and rapidly impregnated with pure sulphuric acid at 1.84 in sufficient quantity to obtain a clear infusion. The opening of the vessel was then covered with a microscopical slide. This slide was wetted on its lower side and one of its ends placed on the edge of the leaden vessel, whilst the other was separated from it by a little platinum thread. This arrangement allowed the lower surface of the slide to be moistened

from time to time without displacing it. The apparatus was subjected to heat for an hour ; after that period the slide was found to be covered with a gelatinous coating.

This coating was soluble in potassium, and the alkaline solution—hyper-saturated with a little excess of sulphuric acid—showed little gelatinous clots which behaved the same as phosphorus salts when treated with a blow-pipe, did not dissolve, and presented all the characteristics of the frame-work of silicium described by Tresenius. This silicium could only have been produced by the decomposition of the fluoride of silicium by the water, and as it was in a very small proportion, the teeth may be concluded to contain but a very small quantity of fluorine, of which the measurement seems impossible.

In fossil teeth, on the contrary, there is a more considerable proportion of fluorine. According to Aeby, the carbonate of lime of the bones might be replaced in a relatively, slightly-raised temperature, by the fluoride of calcium.

Supernumerary Teeth.

The teeth may be numerically augmented by the appearance of what are called supernumerary teeth. These have generally a conical form.

According to M. Magitot, when the teeth are conically shaped, that is to say, when they differ in form from the teeth in the neighbourhood of which they appear, they have a less density, the enamel is more brittle and often shows itself irregular and honey-combed and the dentine shows numerous interglobular spaces, all conditions predisposing to caries ; the cementum shows nothing extraordinary.

M. Galippe has had no opportunity of observing the presence of supplementary teeth and of ascertaining whether their physical properties differ notably from the neighbouring teeth.

Mr. Buckland, late House Surgeon of the Dental Hospital, Leicester Square, has sent M. Galippe a certain number of supplementary teeth. Analyses of these teeth showed that they did not differ in composition from ordinary teeth, and that they were affected by nutrition in the same degree as normal teeth, Their density was varied, the following figures being obtained: density = 2,0860, 1,9801, 1,9385, 2,0344.

In summing up his conclusions, M. Galippe states that, supported by both physical and chemical proofs, as well as by his clinical observations, he maintains that caries should not be con-

sidered solely as a local affection, and that it would be entirely wrong to study this lesion apart from the consideration of the seat of its development, that is, of the tooth itself, which displays—in like manner as the individual of whom it forms an integral part—variations of nutrition which, though slight, bear none the less a direct proportion to the modifications of the other tissues and particularly those of bone. For this reason, he undertook to study the conditions that affect the resisting power of the tooth and the occasional causes determining caries. Notwithstanding the power and efficacy of these causes, they are dominated by the actual constitution of the tooth; hence all that tends to debase the organism by overturning the nutrition of the individual—either during the evolutionary period, or in a state of health or of illness—lowers the co-efficient of resistance of the tooth and renders it more vulnerable to exterior agents. It is, then, to these causes that special attention must be paid; in a word, one must do doctor's work as physiologist, hygienist, and pathologist.

To apply one's attention exclusively to the local lesion would be, applying simple manual therapeutics, being led by the patient instead of directing him, by palliating a lesion without doing what was necessary to prevent its propagation or reappearance.

General pathology must not be deprived of its rights, and M. Galippe's aim throughout the present work has been to show how it predominates in all the morbid manifestations that take place in the mouth.

It cannot be too often repeated that the question of the seat dominates all pathology; dental caries does not escape this law any more than all other parasitical affections. And it will be to the honour of our modern school that it has proclaimed the theory that there are no local diseases, but only lesions producing themselves at those points possessing the least resisting power and being subjected to causes of a general nature.

The mechanism of the production of caries awaits further investigation. Although this question has been studied from various points of view by men of great merit, and notably Leber and Rotenstein, Magitot, Milles, Underwood, and Miller, M. Galippe is convinced by his researches that more than one obscure and interesting point remains to be cleared up, and this he proposes to do later.

Tooth-Plate impacted in the Œsophagus ; Successful Removal by Œsophagotomy ; Remarks.

UNDER THE CARE OF SIR WILLIAM MACCORMAC.

It is now generally conceded that the treatment of foreign bodies impacted in the œsophagus, where unsuccessful attempts have been made by the use of forceps, &c., to extract them, should be by an operation—œsophagotomy—as in the following case. Here, as will be seen from the diagram illustrating the case, the plate with very irregular and pointed projections had become fixed, and resisted all attempts to remove it. The operation has been a very successful one, when undertaken before the advent of inflammation or suppuration about the œsophagus ; the chief danger appears to be in delay. The point in the treatment to which Sir William draws attention in his remarks (the closure of the œsophageal wound by suture) is one which will probably be generally adopted in similar cases, as it presents considerable advantages. The notes of the case have been taken by Mr. Cameron Kidd, house surgeon.

The subject of this accident was a woman, aged thirty-one, of healthy appearance, but subject to epileptic fits since childhood. During one of these fits, which took place on Sunday morning, March 14th, the patient swallowed a set of artificial teeth, consisting of a silver plate to which five teeth (four incisors and one premolar) had originally been attached, but one of these (the premolar) had been broken off some time before the accident



occurred. When the patient regained consciousness she had some difficulty in breathing and swallowing, and then discovered what had happened. She immediately consulted a doctor, who gave her an emetic, which caused her to vomit without moving the plate, and an attempt to extract them with forceps was made without success. She was then advised to apply at St. Thomas's.

On her arrival at the hospital two hours after the fit, there was no difficulty in breathing, but there was considerable pain on drinking. An œsophageal bougie, carefully passed to ascertain the position of the foreign body, became arrested at a point six inches and a-half from the edge of the teeth. The patient said she could feel the tooth-plate from the pain it caused, which she referred to a spot an inch below the cricoid cartilage. Mr. Battle made repeated and prolonged efforts to extract the foreign body by means of œsophageal forceps of various kinds. The plate was repeatedly grasped by the forceps, and as much force used as was thought justifiable, but all attempts to disengage it failed. Some slight hæmorrhage followed. During one attempt, half a tooth was broken off and was extracted. The plate was evidently flattened against the posterior wall, as the forceps went past it, and it could only be grasped when they were withdrawn a short distance and passed again with the blades open. The patient, who was admitted on March 14th, was seen by Sir William MacCormac at 7 p.m., but as there was no dyspnœa or other urgent symptoms, it was decided to postpone any further action until the following day.

March 15th.—The respiration is quite easy, but the patient can not swallow anything, even a small quantity of liquid, and she expectorates the saliva. She complains of severe pain just below the cricoid cartilage, and at the back of her neck. There is some cough.

Operation.—As every possible effort had been made to extract the body by the mouth without success, further attempts in this direction seemed inadvisable. The plate was of very irregular form, with sharp angular projections at each side. It was evidently very firmly lodged in the tube and was not likely to be extracted without danger of tearing the œsophagus, entailing very serious risk. Sir William therefore decided to perform œsophagotomy, the position of the foreign body being distinctly made out by the bougie and forceps, although nothing could be felt in the neck externally. At 2 p.m., the patient being under the influence of chloroform, the œsophageal forceps was passed and the foreign body again plainly felt at the same point as before. An incision about four inches long was therefore made along the anterior border of the left sterno-mastoid muscle, extending downwards to within half an-inch of the sternal notch. The superficial tissues were divided until the edge of the sterno-mastoid muscle was

reached, and the edges of the wound retracted. The anterior jugular vein, which was somewhat larger than usual, gave some trouble at this point, but was finally drawn inwards with the thyroid body. Several veins required division after the application of a double ligature. The carotid sheath was exposed, the omohyoid muscle cut through, and the artery and vein drawn outwards by the finger of an assistant. After dividing about half of the sterno-hyoid muscle and drawing the thyroid body well over towards the middle line, the œsophagus was exposed, but even then the foreign body could not be felt through its walls. It was feared it might have passed into the stomach. The forceps were again passed through the mouth, but even with them the foreign body was not distinctly felt. As, however, the probabilities were strongly in favour of it not having shifted from the position it occupied before the operation, a longitudinal incision about three quarters of an inch long was made upon the end of the forceps, and when the lips of the incision were held apart, the plate was at once seen closely impacted against the posterior wall of the œsophagus. It was readily seized with a pair of forceps and extracted without difficulty. It was now decided to close the œsophageal wound. An ivory-balled probang was passed to cause the tube to project somewhat, and the edges of the incision were united with three catgut sutures. The external wound was disinfected with a 1 in 1,000 perchloride of mercury solution. Two drainage tubes were inserted, and the margins of the skin united with silk sutures. There was very little bleeding throughout the operation. The wound was dressed with iodoform, salicylic wool, and gauze bandages. The patient was ordered to be fed by the rectum, and not to have anything by the mouth.

March 16th.—On the wound being dressed this morning, it looked well and there was no puffiness. Patient had a nutrient enema at 12 a.m., and a similar one has been ordered every four hours. She has taken nothing by the mouth, and expectorates her saliva. Slept well; no pain. The temperature rose after the operation to 101°, and is now (9 a.m.) 100·4°; at 9 p.m. it was 98·4°.

18th.—The stitches were taken out and the drainage-tube removed. The wound was looking very well. The patient could now swallow her saliva and she was allowed a little milk, which she swallowed easily and without any pain. Nutrient enemata discontinued. Temperature a.m. 99·4°; p.m. 100°. There has been no regurgitation through the wound.

20th.—Last evening some milk came through the wound after drinking. The patient did not mention the fact till this morning, as she was afraid her supply of milk would be stopped. She is a restless, irritable woman, and dislikes the feeling of thirst. On taking off the dressings and giving the patient milk to drink, some came out of the lower end of the wound, which was perfectly free from inflammation and had healed, except at the spot above and below where the drainage-tubes had been placed. The nutrient enemata were ordered as before and the supply by the mouth stopped. Antiseptic dressings left off. Temperature normal.

22nd.—Wound again dressed; it was looking quite well. On drinking hastily, a little milk came out from the lower end of the wound; a small drainage-tube was inserted there. The patient was still allowed to drink milk. The nutrient enemata were discontinued. Temperature, morning, 99°; evening 99°. General condition excellent.

25th.—The wound is now soundly healed, with the exception of a small place at the lower extremity. No milk has passed through it for the past twelve hours, not even when the patient swallows quickly. Drainage-tube removed.

27th.—Wound completely healed. The patient had an epileptic fit at 4 o'clock this morning.

30th.—The patient was up on the 28th, and went home to-day. There is a linear cicatrix in the neck, scarcely noticeable. She can swallow as well as before, and without pain or inconvenience, even when taking solid food.

The patient was seen about a month later, and was in excellent health. She had been supplied with a new and securely fitting plate.

Remarks by Sir WILLIAM MACCORMAC.—This patient was only sixteen days in hospital, having made a rapid recovery. The point of chief interest is the closure of the œsophageal incision directly after the removal of the plate. The introduction of the sutures was a little troublesome owing to the depth of the wound, and I consider the partial failure was due to imperfect closure of the incision, from an insufficient number having been passed. Had four or five sutures been introduced in place of three, this accident might probably have been avoided. The milk, however only found its way into the wound on the sixth day, when the chance of extravasation into the cellular tissues of the neck would be past, and it soon ceased to escape. This practice appears pre-

ferable to introducing a tube into the stomach from the neck or mouth and allowing the wound to heal by granulation—at all events, in cases such as this one where there were no inflammatory changes in the parts, and the margins of the œsophageal wound were clean cut, and not bruised.—*The Lancet*.

OBITUARY NOTICE.

WE regret to announce the somewhat sudden death of Major R. E. STEWART, L.D.S., of Liverpool, on the 19th of May. Major Stewart was a very liberal and energetic supporter of dental movements, and held the chair of mechanical dentistry at the Liverpool School of Medicine. He was largely instrumental in establishing the Dental Hospital in Mount Pleasant, and was elected president of that institution. His energies were not, however, confined to his own speciality, he was equally prominent in many public affairs unconnected with surgery or medicine, chiefly, perhaps, in the volunteer movement, holding the rank of major in Colonel Tilney's corps. Those of our readers who remember the gathering of 1882, at Liverpool, will not forget the prominent part played by Major Stewart at that annual meeting. He died at the early age of fifty-five at his house in Rodney Street, and his public services as a volunteer were recognised by a public funeral attended by a large concourse of friends and sympathisers. The interment was performed with full military honours on the 23rd of May.

WE regret to have also to announce the death of Mr. ISIDORE LYONS, L.R.C.P., M.R.C.S., L.D.S., L.S.A., late Dental Surgeon to St. Bartholomew's Hospital. Mr. Lyons had relinquished practice some time before his decease owing to failing health.

APPOINTMENTS.

ARTHUR S. UNDERWOOD, M.R.C.S., L.D.S.Eng., has been appointed Dental Surgeon to the Dental Hospital of London, Leicester Square, *vice* Henry Moon, M.R.C.S., L.D.S.Eng., resigned.

W. HERN, M.R.C.S., L.D.S.Eng., has been appointed Assistant Dental Surgeon to Middlesex Hospital, *vice* Claude Rogers, M.R.C.S., L.D.S.Eng., resigned.

J. JAMES BAILEY, L.D.S. Edin., has been appointed Honorary Dental Surgeon to the Royal Surrey County Hospital, Guildford.

ANNOTATIONS.

THE Honorary Secretary of the Association will send out post-cards to all the members asking for certain information about the attendance of members at the Annual Meeting, and it is to be hoped that every gentleman will be kind enough to reply fully and promptly to the post-card as soon as possible, in order that the Executive may be enabled to form some idea of the number likely to be present. In order to make this as simple as possible, the Hon. Sec. will send a *reply* post-card, so there will be no excuse for any negligence.

ONE of the many attractions at the annual meeting, in August, will be an Art Exhibition for the benefit of the Benevolent Fund. The exhibition will follow more or less upon the lines of its predecessor at Cambridge last year; it will be held at the Dental Hospital of London, Leicester Square, and will consist of pictures (oil, water-colour, chalk, &c.), painting on china and glass, fret-work, brass-work, &c., in fact any kind of artistic productions not of a professional nature. The artists must be members of the profession, but this title is to extend to and include all the members of a professional man's family. By this ingenious extension a good deal of extraneous talent ought to be added to the list of last year. The hon. secretary to the Fund, Mr. George W. Parkinson, of 36, Sackville Street, is anxious to receive the names of those who wish to be exhibitors as early as possible, as the necessary arrangements will involve no small outlay of trouble and time; we trust that our artistic friends will communicate with Mr. Parkinson at once. The Exhibition is sure to be a success, but we think Mr. Parkinson has no light task before him if he is to act as hanging committee.

THE advertisement which appears in our advertising columns from Dr. W. H. Waite, of Liverpool, regarding the sale of his practice will, no doubt, come upon our readers as a surprise. On inquiry we understand that Dr. Waite's sight has recently been very seriously threatened, and that now certain defects have in both eyes assumed an active character, and we regret to say that the power of vision is likely gradually to diminish even under the most favourable circumstances. Those who know Dr. Waite by reputation, will read this with deep regret; but how can we express the feelings of those who know him personally, and who have by contact with him learned to appreciate him both intellectually and morally? They alone can tell the loss sustained by the religious and charitable societies of the city in which he has so long laboured, and those who have worked with him in the cause of dental progress can alone estimate the loss which we sustain in this overwhelming calamity. It is sad to reflect that his unsparing exertions on our behalf may have, in a measure, hastened the advent of this misfortune, and we now know that with this dark cloud hanging over him, Dr. Waite has, for months past, worked for us as if all were well.

THE *Lancet* for May 29th contains some very interesting particulars about the Bartlett case, in an article by Mr. Leach. One statement will have a special interest for the readers of this Journal, and we therefore quote the paragraph at length from our contemporary:—

"On Dec. 21st, when his teeth were extracted, a peculiar and suggestive circumstance occurred, which tends to throw some light on the man's character. He had a firm belief that he could not be brought under the influence of 'laughing gas,' because in former years medical men and dentists had failed to produce anaesthesia in him by its aid, and had told him he 'could never be brought under.' I resolved to avail myself of the peculiarly impressionable nature of the patient and his unreasoning belief in my powers; so, after preparing his mind by a discourse upon the voluntary abolition of painful sensations and a mystical manipulation of a camel's hair brush saturated with cocaine, I informed him that he could no longer experience any sense of pain in his lower jaw. I placed him in position, signalled to the dental surgeon to commence operations, and treated the patient to a clinic somewhat in this style: 'Now, what you feel

is merely a sense of chill from contact with a metal and absolutely painless. Lie still and keep the mouth open. Now you feel the teeth painlessly dropping out from the insensible sockets, and it does not hurt you in the least. The sensation is almost pleasurable.' The four lower incisors had flown out, and the patient had kept his eyes inquiringly fixed and never winced. He was puzzled to say whether he had suffered or not. Ordinarily he could not bear to have his gums or teeth touched by his own or any other person's finger. I have never practised this pious fraud before, and am doubtful whether I shall ever meet with another case in which it will bear repetition. Ten days later, when his left lower canine required removal, I was lacking in faith enough to resort to it."

THE influence of the imagination is so great that it is impossible to accept, with regard to the anodyne effects of cocaine in extraction, the evidence of patients who are aware of the nature of the experiment. Most practitioners of any experience could adduce plenty of cases in which the imagination has been excited so as to deceive the patient with regard to the pain felt. Such a deception is every bit as satisfactory as if a real effect were produced, but the reagents employed have often received the credit of the immunity they did not produce.

IN the discussion that followed Dr. Walker's paper on "Pin, Bar and Bridge Work," read at the Midland Branch meeting (see p. 330), some very forcible criticisms were urged by many of the gentlemen present. Mr. Harding, of Shrewsbury, suggested some difficulties in the way of the methods described by Dr. Walker that must be fully explained away before these proceedings are generally sanctioned as sound dental surgery. There are not many patients, urged Mr. Harding, who would, or who could sit absolutely still for four or five hours during the adjustment of the piece; secondly, teeth do not remain still and free from movement, and any alteration in the mutual relationship of the supporting teeth must invalidate the work; thirdly, to drill holes in sound teeth is, to say the least of it, a very questionable practice; fourthly, should the teeth break, what is to be done? To begin the work *de novo* would surely be a very serious consideration.

DR. WALKER'S reply was to the effect that patients would and did submit to the process; that Dr. Finlay Thompson's case done

five years ago was perfect now, no change of position having taken place ; as to injuring the sound teeth, he urged that all artificial work did this, and for the "fracture argument" he had no reply ; it was confessedly a weak point. For ourselves, we are not inclined to admit that all artificial work does necessarily destroy the sound teeth ; moreover the records of this recent plan are at present so slender that it would be unwise to deduce much from them. Nevertheless, Dr. Walker did not so much *advocate* the plan as *explain* the *modus operandi* ; we regret that we cannot reproduce his excellent models for the benefit of our readers.

At the same meeting, Mr. W. H. Nichol described a new form of constant battery and electric lamp for dental use. The lamp was made by Reynolds and Branson, of Leeds, and would run a small Edison lamp of $2\frac{1}{2}$ candle power for about eighty hours. The lamps were fitted up in small glass tubes through which a constant current of water passed, keeping them quite cool ; hoods to direct the light and a universal joint were also adapted to the lamps. The apparatus is easily re-charged, the zincs can be readily renewed, not requiring to be re-amalgamated, because the liquid used for the porous cell contains a strong solution of a salt of mercury which keeps them quite bright. The cost is moderate, a four-cell battery being priced at £2 2s.

EPILEPSY FROM DISEASED TEETH.—The following case of epilepsy, caused by the irritation of a diseased tooth, is reported by Dr. Schwartzkopff, of Eisenach, in the *Deutsche Monatschrift für Zahnheilkunde*. A man, aged twenty-seven, suffered severe pain in the right upper central incisor, which was carious, and consulted a dentist, who filled it. Soon after a swelling appeared on the hard palate in the neighbourhood of the tooth ; this increased in size, spreading backwards until it reached the soft palate, where an opening formed. The patient was now again easy, but the tooth continued loose and tender when touched ; the fistula also remained potent and discharging. Ten days after the tooth was filled, the patient had an epileptic attack, and these recurred at gradually shorter intervals until, at the end of eighteen months, they occurred several times a week. During this time the patient was treated with bromides, atropine, &c., but without result. The tooth was then extracted, the fistula healed and the fits ceased, and at the time of reporting the patient had remained free from them for four years.

A DENTAL HOSPITAL has been opened at Marlborough Place, Brighton. It is called the Brighton, Hove, and Preston Dental Hospital. We have received a list of the officers of the new institution from the hon. secretary, Mr. Walter Harrison, and the name of Mr. Marriott, M.P., as a patron, heads the list; we miss, however, the names of some well-known practitioners whom we might have expected to have been associated with the scheme. The hon. secretary assures us that the institution will be worked on the same lines as that at Leicester Square, and we wish that it may obtain the success that always attends well directed energy in a good cause.

MONTHLY statement of operations performed during the month of May, 1886, at the :—

		Dental Hospital of London.		National Dental Hospital.		Manchester Dental Hospital.
Number of patients attended	...	—	...	1713	...	966
Extractions :						
Children under 14	...	405	...	435	..	} 738
Adults	...	876	...	611	...	
Under Nitrous Oxide and						
Chloroform	...	734	...	430	...	50
Gold Stoppings	...	281	...	82	...	19
Other Stoppings	...	1249	...	559	...	111
Advice and Scaling	...	119	...	283	...	—
Irregularities of the Teeth	...	125	...	235	...	—
Miscellaneous	...	141	...	147	...	350
Total	...	3930	...	2782	...	1268

THE Student's Society of the National Dental Hospital, held a meeting on the 4th, Mr. Willoughby Weiss president in the chair. Messrs. E. G. Carter, Jones and Fripp showed some interesting models. Mr. Fripp read a paper on the preparation of the mouth for artificial dentures, and in the discussion which followed Messrs. Gaddes, Rymer and Read took part. The next meeting will be held on Friday, October 8th, when a paper will be read by Mr. Patterson.

A COUNTRY practitioner has sent us for inspection a bottle of a dentrifice made for him by Messrs. J. E. Hughes, of Scarborough, (chemists), which has a very agreeable and delicate flavour; the principal ingredients are benzoic acid, oil of peppermint, orris root, cinnamon and alcohol. It is sufficiently antiseptic, and if it stands the most trying test, that of time, and those who use it do not soon

get tired of it, it will be an acquisition. The maker has given it the name of Sabaline.

WE take the earliest opportunity to apologise to the editor of the *Independent Practitioner* for an accidental breach of etiquette. The letter of Dr. Harlan, published among our "critical abstracts" last month, was put in by an oversight without the usual acknowledgement of the source, although in a subsequent annotation the source was acknowledged.

THE Scottish Branch have succeeded in purging the professional list in the Edinburgh Postal Directory, and it now appears for the first time unblemished by the names of unregistered practitioners. Other Branches might look to their local directories with advantage.

WE learn that the infant King of Spain is already provided with a dental surgeon; we hope his Majesty will not require his services for a long time to come.

THE Scottish and West of Scotland Branches had a most successful meeting, productive both of pleasure and profit. Both work and play were good, and full particulars will appear next month.

IN our report of the formation of the Southern Counties Branch of the British Dental Association, we regret to state that the name of Mr. James E. Welch is twice wrongly spelt, the name appearing as "Welsh."

THE Honorary Secretary will be glad to receive *as soon as possible* the names of all gentlemen who are willing to read papers, or give demonstrations at the ensuing Annual Meeting in August, in order that the necessary arrangements may be completed without delay.

CORRESPONDENCE.

We do not hold ourselves responsible for the views expressed by our Correspondents.

The Use of the Elevator.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Opinion as to the suitability of the Elevator in the casualty case, usefully recorded by Mr. D. Browning, will greatly depend upon familiarity or otherwise with that instrument. With all deference to a "Hospital L.D.S.," who animadverted upon Mr. Browning's selection of the Elevator, I must dissent from his conclusion that "the Elevator should never be used for the extraction of any tooth in the upper jaw as so many accidents are liable to occur." The experience of probably

not a few operators might justify the same language in regard to the forceps. Is the percentage of casualties greater with the Elevator than with the forceps? I believe the reply of those familiar with the use of both instruments would be in the negative. Opinions and practice, no doubt, widely differ upon this question. One of the most inventive and skilful practitioners I know, assured me he had never used the Elevator, because he was afraid to do so. On the other hand, another "Hospital L.D.S." carries or used to carry a small home-made vertical blade elevator, capable, in his hand, of removing almost any tooth or fang, upper or lower. It is a truism to say that much depends upon the form of instrument and upon knowing how to use it. I am indebted to the late Mr. Henry Rowe, of Preston, for introduction to the use of an Elevator with a blade, bent nearly at right angles to the shaft and to a companion instrument with longer shaft and blade bent more obliquely. For decayed upper bicuspid, molars, and canines, and for lower bicuspid and molar fangs and remnants, I have used no instrument so frequently. I believe Mr. Harry Rose described this or a similar form of elevator some time ago, and it might be justly, I believe, called "Rose's Elevator."

In commenting upon a casualty such as the one in point, it should not be forgotten how "easy it is to be wise after the event," and also how impossible to detail all the circumstances and conditions of a case, and how frequently the result depends upon "a little thing," such as the height of the operating chair, or the position of the head. Doubtless, every practitioner has met with casualties, or our dental archives would contain no instructive chapter of accidents. Responding to Mr. Browning's desire to elicit the experience of others, I recall three casualties with the Elevator, the most serious I have known.

The first was the result of unfavourable conditions during a holiday tour. A relative insisted upon the removal of a left upper first molar and having only the aforesaid Elevator with me and an ordinary chair, the head being held, the force required along with the tooth drove back the finger guard and plunged partly into and beneath the tongue, inflicting a somewhat severe and painful cut. The hæmorrhage, which was copious, was arrested, and the wound healed by the persistent use of calendula lotion.

The second was in connection with the removal of a very firm second left upper molar. The crown with palatal and anterior buccal fangs had been brought away with the forceps. The remaining buccal fang lay partially under the shadow of the wisdom tooth and refused the appeal of the forceps. It yielded to the Elevator, but at the sacrifice of the innocent wisdom tooth, both rolled over together. No doubt the force was applied too obliquely, but I may add that so difficult were this patient's teeth to extract, he had come to believe their removal impossible.

The third case was that of a delicate anæmic lady suffering from a first right upper molar. Here, again, the forceps had brought away the decayed and brittle crown with the palatal fang, leaving in the small and rather deeply buried buccal fangs. I removed the anterior with the Elevator, and proceeded to the posterior with the same instrument. Apparently, this also came away, certainly disappeared, had been "sent flying somewhere," but further thought and examination suggested that it had entered the antrum. This surmise proved correct, and after diligent syringing, I had the satisfaction of seeing the missing fang peeping through the broken floor of the antrum, and

then by a little coaxing slip through and fall at my feet. The case progressed favourably,

Against these and a few other minor accidents might be set a legion of difficult cases, upper and lower, in which, without the Elevator, endeavour would have sunk "deep as our despair."

EDWIN COX, L.D.S.Eng.

Auckland, N.Z., March 29th, 1886.

The Invention of the Burring Engine.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—As Morrison, of the dental engine, is half a Scotsman, patriotic advocates of James Nasmyth's claim to the invention may quite complacently regard both men as having independently adapted, with equal ingenuity, a well known mechanical device to their respective purposes.

The peculiar properties of a cylindrically coiled wire, due to great torsional rigidity combined with slight resistance to flexure, have been variously used for a century; and Morrison at least must have been familiar with the small two-handed flexible coil drill employed in the mouth by dentists two generations ago. From personal association with him some twenty years back, I believe however, he was the *first* to devise suitable arrangements for imparting by foot or other external power, a high speed to a dental tool which could be conveniently held in the hand; and was therefore the original *inventor* of our engine. He also tried and abandoned many modifications which have since been brought out as improvements; but, curiously, the mechanical arrangement he finally adopted, and one essential to nearly every form of engine made since, was also embodied in a famous Yankee sheep-shearing machine. The further development of torsional rigidity by a particular construction of the coil, patented in America as the "Stowe Flexible Shaft," resulting in the "cable engine"; improvements in the details of the "hand-piece," and attempts to lead a running cord to it direct, are the only successful modifications of the original idea.

Quite lately the flexible coil has been re-invented and patented in this country as a coupling between high speed, steam or other motors and dynamo-electric machines.

Yours faithfully,

W. H. C.

June 2nd, 1886.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—I fear that Mr. Hepburn has not carried his investigation quite far enough, in regard to the invention of the burring engine.

As far as my memory serves me, the first engine made was by Dr. Green, of Wisconsin, U.S.A., in 1869, and was pneumatic—the air being forced by pump driven by the foot through rubber tubing, to a revolving wheel in hand piece. Pressure and exhaust were both used.

Dr. Morrison of St. Louis brought out the first practical engine about 1870.

N. S. Elliott of Goshen, introduced the suspension engine in 1871, and Green's electric engine came out about this time.

S. S. W. applied the Stowe flexible shaft to dental engine about 1874. Mr. Nasmyth did not invent the stone flexible shaft, now used in

Stowe

the S. S. W. engine, but only a spiral spring, which by the way was not original with him, as it was used to connect shafting in French flour mills nearly a century ago, and is called Thirion's flexible coupling.

Again the spiral spring, except as used by Morrison and Shaw, is quite inapplicable if of any length, on account of back lash; if Nasmyth had used it only at the corners, and a straight shaft between, he could have done better work.

Yours faithfully,

W. ST. GEO. ELLIOTT.

May 25th, 1886.

Tooth Powder.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—In reply to "Practitioner's" letter in your last issue *re* Tooth Powders, the following is a good and simple form, which I have recommended to my patients for many years, and it invariably appears to please them. I believe it also possesses all the qualities necessary in a tooth powder, it is a good antacid, a thorough cleanser and is just sufficiently rough to remove any recent deposits of tartar, &c., without the slightest risk of injuring the most delicate teeth.

Very faithfully yours,

W. DONSTON, L.D.S.

May 20th, 1886.

R _x . Pulv. Saponis	...	...	...	...	$\frac{3}{4}$ iss.
Cretæ Præcip.	...	...	...	...	$\frac{3}{4}$ iss.
Otto de Rosæ	...	...	...	...	gtt. vi.

Sign "The Tooth Powder."

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Like your correspondent "Practitioner," I have long felt that the subject of tooth powders, was one very much neglected by the dental profession, who are content to leave such preparations to men in a great measure ignorant on dental matters, and who know nothing of the requirements for maintaining a healthy condition of the mouth. Consequently preparations have come into the market, whose only recommendation is their pleasing perfume or the more fatal quality of making the teeth white, this as every dentist knows can only be done at the expense of the enamel. I have before now known powders sold as scouring powders for removing tartar, &c., these were made up principally of powdered pumice; I think the effect of such preparations on the teeth may be easily guessed. I always caution my patients against using any preparations advertising the above qualifications, and when possible to procure their tooth powder or mouth wash from a dentist; as the next safest thing, to use a little soap with precipitated chalk.

My own idea of a tooth powder contains the following ingredients (which I find my patients like very much and which I have used myself for several years), soap, chalk, chlorate of potash, and myrrh.

I shall be glad to forward a sample of my own preparation to any dental practitioner, who will send me his stamped address.

Yours truly,

A. HOWARTH, L.D.S.Eng.

May, 1886.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—In a paper read by Mr. Sewill at the Annual Meeting at Edinburgh, subsequently published in the Journal, on the Prevention of Dental Caries, there are prescriptions for tooth powders calculated to fulfil most of the requirements needed in these preparations, and I have had sufficient experience in their use, since I have been associated in practice with Mr. Sewill, to testify with him that they are liked and freely used by the great majority of patients.

R \bar{y} Pulv. Sapon. Castil.	...	...	...	...	...	5ij.
" Iridis	...	...	...	...	...	3 p.
Sodæ Bibor.	...	...	...	...	...	3ij.
Cretæ Precip.	...	...	...	...	...	3ij.
Ol. Caripph.	...	...	...	...	...	℥ v.
Ol. Lavand.	...	...	...	...	...	℥ x.
Otto Rosæ	...	...	...	...	...	℥ v.
M. fr. dentifrices.						
R \bar{y} Pulv. Sapon Castil.	...	...	...	...	...	3ij.
" Iridis	...	...	...	...	...	3 p.
Sodæ Bibor.	...	...	...	...	...	3ij.
Cretæ Precip.	...	...	...	...	...	3ij.
M. fr. dentifrices.						
Adde.						
Acidi Carbol.	...	...	...	...	...	3i.
Oil Eucalypt.	...	...	...	...	...	5ij.

These preparations are not expensive, unless the more costly perfumes such as otto of roses be used. Any of the essential perfumes answer to render the powders pleasant, and indeed it is well to employ several together so as to produce an agreeable bouquet. Oil of cloves, oil of sandal, oil of geranium, or of lavender, are among the most useful. The powder with carbolic acid and eucalyptus oil is of course more efficacious, especially where there is vitiation of the oral secretions, and in many of these cases the patients recognise its value and express great satisfaction from its employment. Many sensible patients prefer this for ordinary use, even when the mouth is healthy, and it is easy to explain matters to such patients and give them the option of choosing their prescription. There is a large residuum of patients, to whom Mr. Sewill alludes in his paper who, however, will not continuously use any tooth powder which is not very agreeable to the palate, and these patients, generally ladies, almost invariably fall back upon the various advertised preparations, which are mostly concocted to please this class of the public. There is, therefore, still room for improvement in our prescriptions.

Yours faithfully,

40, Wimpole Street, W.

W. J. ENGLAND.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—As a correspondent in your May number invites remarks and discussion concerning dentrifices, I venture to send you a form for one, which I think meets almost all reasonable requirements.

R \bar{y} . Pulv. Myrrhæ	...	...	...	...	...	3i.
Terra Rosæ	...	...	...	...	...	3 ss.
Acid Carbol. pure...	...	...	...	...	...	gtt. xxx.

Pulv. Sapo Castellat.	...	...	...	3 ss.
Otto Rosæ	...	...	...	gtt. xx.
Ol laryoph...	...	...	...	gtt. 40.
Creta Peppermint	...	...	...	Hj.

Misce intime et cola.

Of these ingredients, the rose pink and otto merely please the eye and taste, the oil of clove and carbolic are well known and valuable antiseptics, the myrrh and prepared chalk are too familiar articles as detergents to need reference, and the castille soap is introduced on account of its influence over microscopic fungi, which other detergents appear to fail to destroy.

All "mechanical" tooth powders such as cuttle fish should, I think, for obvious reasons, be avoided, at least for habitual use. Vegetable charcoal is excellent in a dentrifice, but its use is attended with such disagreeables, that it is probably better excluded. Yours faithfully,

May 22nd, 1886.

H.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I notice in the Journal of this month a letter *re* Tooth Powder from "Practitioner," also your annotation recommending your chemical friends to respond. I send you tooth tablets and tooth soap, which contain the ingredients enumerated on the small card. The result of these dentifrices, powder and soap, have by the test of time been proven to be efficacious without in any way demolishing the enamel. White soap, best English chalk, Orris root—sugar in a small proportion and flavoured by essential oils. Each ingredient will in no way cause any deleterious effects.

I know of many dentists who make use of powdered pumice to compound with their powders. I am sorry to state their defence is—a preservative powder is in every sense, detrimental to their own interests.

I am sure a trial and test of my preparations, will prove them to be innocent of any detrimental ingredients. I remain, yours respectfully,

May 20th, 1886.

ALEXR. JAMIESON, F.C.I.L.

[We have tried the soap and find it very agreeable, but more time is requisite for a verdict.—ED.]

The Midland Branch Meeting.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I am afraid you flatter me by stating the observations I made at the above meeting, *re* the "honour and interests of the profession" were "sweeping." I trust they may be effectual. I propose to move that Bye Law I. be amended by the addition of the words in italics as under, at our annual meeting in August, and shall be glad to have a line from such members as approve, as soon as possible.

"ELECTION OF MEMBERS.

"1. A person who is registered in the Dentists' Register shall be eligible for election as a member of the Association, *or member or associate of a branch*, provided that he be of good character; *that he practises dentistry solely*; that he does not conduct his practice by means of the exhibition of dental specimens, appliances, or apparatus, in an open shop, or in a window, or in a show case, exposed to public inspection; or by means of public advertisements or circulars de-

scribing modes of practice, or patented or secret processes ; or by the publication of his *professional qualification* or scale of professional charges."

The necessity for some such amendments is, perhaps, more apparent to the branches in the provinces than to our friends in the metropolis, some of whom, however, I know are distinctly in favour of these more stringent regulations ; but, sir, I trust and believe we all have the interest and honour of the profession at heart, and that everything we do will tend to its elevation.

I am, Sir, Your obedient servant,

HENRY BLANDY.

Dr. Harlan's Account of the London Dental Hospital.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—There are certain incorrect statements in the letter which you reprinted from the *Independent Practitioner* last month, which cannot be allowed to go unnoticed. Dr. Harlan will be grateful to me I am sure, for preventing the misapprehension that might arise from his unintentional misstatements gaining ground and spreading in America a mistaken notion of the working of our Dental Hospital, at Leicester Square. The mistakes in the letter are the following :

(1) That having purchased the gold for filling from the house surgeon, the student "of course gets as much *or more from the patient*" (the italics are my own).

I venture to say that a man who sailed so close to dishonesty as to extort a profit out of hospital patients, would not be permitted to remain at the hospital by his fellow students, to say nothing of the prompt expulsion that would follow, should such an abuse reach the ears of the authorities at Leicester Square. Such an act would be considered little else than a theft.

(2) That very little cohesive gold is used. From the hospital accounts about five times as much cohesive as non-cohesive is used.

(3) That there is one chair for every three or four students. There are thirty-five chairs of modern pattern in use, and the average attendance of students does not exceed that number.

Lastly—The monthly report of the hospital at Leicester Square, has been by Dr. Harlan confused with that of the National Dental Hospital.

I trust these slight corrections will tend to remove any false impression that Dr. Harlan may have unwittingly given rise to by his otherwise very readable and entertaining letter.

Faithfully yours,

A PAST STUDENT AT LEICESTER SQUARE.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 40, Leicester Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Members are reminded that their Subscriptions for the current year are now due, and should be remitted to the Treasurer, at 40, Leicester Square.

, According to the Byelaws of the Association, Members who are one year in arrears are not entitled to receive the Journal.

All Correspondence for the Editor, Books for Review, and Exchange Journals should be addressed to 40, Leicester Square, London, W.C.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 7.

JULY 15, 1886.

VOL. VII.

The August Meeting.

IN a few weeks' time we hope to have the pleasure of meeting many of our friends in London, and the business committee—with whom have been associated several gentlemen, whose valuable co-operation was most desirable—seems resolved to do its utmost to make some small return to our provincial friends who have hitherto so generously and successfully acted as the hosts of the Association. As might have been expected, the number of members who have promised to attend the meetings is very considerable, and we are informed that the Executive anticipate an unusually large gathering. This is fortunate in more ways than one—for although a good gathering is at all times to be desired, yet at the present time we may have to look back upon our past career, and perhaps consider more about the future than we have hitherto done. The recent pas-

sage of the Medical Acts Amendment Bill through both houses of Parliament, has, we may presume, completed all that can be expected from the legislature on our behalf. We have been embarrassed in many ways by the manner in which certain provisions of the Dentists Act have been interpreted, and it is hoped that some of these troubles have been removed by clauses introduced into the new Act above referred to. Owing to circumstances which we must all regret, the duties of Chairman at the opening of the General Meeting are likely to devolve on Sir John Tomes, who will in all probability take the opportunity of explaining the bearing of the recent legislation upon our position and future action.

A reference to the list of papers will show that the question of Education is occupying the attention of more than one of our Members, and we may look forward to a discussion on this all important matter, which will be at once interesting and valuable. It must be within the experience of all who care to observe for themselves, that no legislation, however sweeping, or however stringent, will put down rascality and quackery. While the public is willing to be gulled, there will always be plenty of people ready and willing to accommodate them in this particular, and nothing short of an interference with the liberty of the subject quite out of keeping with the spirit of our general course of legislation is ever likely to restrain it within satisfactory limits. It is therefore left to us to educate first ourselves, and next the public, in such a way as to make a marked distinction between the reputable, and the disreputable practitioner. This the British Dental Association is trying to do, and if it is to continue useful, must go on trying to do in every way in its power, and we hope that the papers to be read at the August meeting may materially forward our efforts in this direction.

Quackery.

THERE is no subject more delicate or difficult to handle in a journal that represents a profession than the illegitimate forms of practice that are familiarly known as quackery. Yet since one of the principal objects with which our Association was formed, was that it should guard the interests of the professional from the unprofessional practitioner, and watch with a jealous eye over the welfare of those who strive to fulfil their duties to the public and to each other in a becoming manner, so it becomes our duty, though an unpleasant one, to take notice of various discreditable attempts that have been recently made to attract practice in an unbecoming manner. We are the more urged to do this because a peculiarly unsavoury element has been introduced into some recent outbursts of dental charlatanism that has given just offence to many highly respected members of our body, who are to a certain extent foreigners. We can readily appreciate the disgust of our American brethren who are practising in London, when they find American dentistry dragged in to give a colour to the disgraceful pamphlets, lectures and cards that are being scattered broadcast by unqualified dentists and unscrupulous swindlers among the ignorant public, as a bait to allure victims and entrap the unwary into the hands of sharpers and black-mailers. The recognised lines that divide upright from irregular practice, are not perhaps anywhere laid down with great distinctness, but there are some forms of advertisement about which there can be no two opinions. It is true that the gaudy circulars in which ridiculous sequences of unmeaning letters are made to appear like degrees (the unconscious tribute of vice to virtue), and nonsensical claims to special methods of work and new American principles are professed, are not likely to deceive educated or sensible people

but the trouble of it is that there are a large number of the community who are neither educated nor sensible, and who do fall into these traps and do not find out till too late that they have been robbed. We are continually hearing of these cases, poor people who have saved up their earnings, and sometimes rich people who should know better, are tempted, and with various results ; sometimes the victim, if weak-minded, pays and learns his lesson ; sometimes the affair ends in arbitration, but owing to the delicate nature of the matter in dispute, seldom in a lawsuit, but almost always in a manner discreditable to all parties concerned.

Now these practices produce a twofold mischief ; first, they tend to degrade the name of dentistry among those who hastily confuse the quacks with legitimate practitioners, and secondly, they cast a wholly undeserved and unfair stigma of disgrace upon American dentists, which these latter gentlemen are naturally eager to resent and disclaim. The gullibility of the British public is easily imposed upon, and any cheap jack who is too ignorant to qualify properly, need only be also dishonest enough to write a few unmeaning jumbles of letters after his name, sufficiently resembling the letters of diplomas and dub himself an American dentist, to find plenty of foolish flies ready to buzz round the flame of his candle ; it is the old story, and they get their wings burnt, but it is the part of those who are aware of the nature of the trick to expose it.

Our contemporary, the *Student's Journal*, in a recent number, took notice of some circulars they had received of this nature, and in doing so gave expression to the indignation that must be shared by every one who considers an honest livelihood preferable to one dependent upon chicanery and sharp practice. The author of the circular in question solicits the good offices of professional men, first

to find him an assistant or partner, secondly, to recommend him to patients, and lastly, to enter into some arrangement for mutual benefit and divide the spoil. This last suggestion is very properly regarded by the *Students' Journal* as a gross insult to the gentlemen to whom the objectionable circular is addressed. Our contemporary takes the opportunity to notice another circular, issued by an individual whose qualification has been withdrawn by the licensing body that granted him his diploma, and whose name by a resolution of the Medical Council at its last meeting has been erased from the Dentists' Register, and who, notwithstanding this, has obtained the permission of a number of qualified physicians and surgeons to append their names to his advertisement. The *Students' Journal* asks with unanswerable logic, how these gentlemen can co-operate with an individual whose method of conducting his practice has led to the forfeiture of his diploma, without placing themselves in the unenviable position of sharing his disgrace. It has always appeared to us a most inexplicable thing that men who have any sense of professional morals, to say nothing of etiquette, can be induced to consent to lend the support of their names to undertakings, which a very little examination would demonstrate to be of so equivocal a nature, and we have not been able to solve the mystery hitherto. We are unwilling to believe that the "mutual benefit" system can really be less distasteful to the sense of honour of the medical profession than our contemporary assumes it to be. We would not suppose that the attraction of dividing the spoil of the victims can really prove irresistible even to needy practitioners, but while their names and addresses appear at the tail of shameless advertisements they will, to say the least of it, continue to lie under the grave suspicion of advertising.

ASSOCIATION INTELLIGENCE.

Meeting of Representative Board.

A MEETING of the Representative Board will be held on the 31st inst., at 40, Leicester Square, at 3 p.m.

Scottish and West of Scotland Branches.

ON the invitation of the Western Branch, the Annual Meeting of the Scottish Branch was held on the 4th of June in the Faculty Hall, St. Vincent Street, Glasgow, the members of the Western Branch being present and taking part in the public business. Walter Campbell, L.D.S.Eng., in the chair. There was a large attendance of members and friends. Messrs. Andrew Wilson, John A. Biggs, W. Bowman Macleod, Drs. Smith, Reid, and Williamson, Messrs. Matthew MacGregor, Smythe, Crichton, Crombie, J. S. Amooore, Alexander Cormack, C. S. Sinclair, J. S. Durward, James Mackintosh, M. Finlayson, John Stirling, Norman MacQueen, J. Moore Lipscomb, W. S. Woodburn (President of Western Branch), J. Brownlie, Oswald Fergus, Martin, Fraser, D. R. Cameron, James Cumming, A. B. Young, P. S. Walker, Rees Price, W. H. Gray, J. Cameron, and others.

The Secretary having read the minutes of previous meetings, the Treasurer presented a satisfactory financial report.

On the motion of Mr. Stirling, of Ayr, the present office bearers and Council were re-elected for another year.

The PRESIDENT then in a few graceful and justly complimentary words moved, that the Scottish Branch record its congratulations to Sir John Tomes, on his elevation to knighthood.

Dr. SMITH, in supporting the motion, said, that no man in his own department had done more to deserve this honour.

The motion was carried by acclamation, and the Secretary was instructed to forward an extract of the minute to Sir John Tomes.

On the request of Mr. Rees Price, his paper on "The Medical Sickness, Annuity, and Life Assurance Society," was held as read, and will appear in the Transactions of the Society.

Mr. CROMBIE, Aberdeen, then read a paper on "Electricity as an adjunct to Surgery." See page 403.

A very perfect specimen of the Narwhal tusk was exhibited and

described by Mr. W. S. WOODBURN. It was 6 feet 3 inches in length, and the spirals were beautifully marked.

Mr. MACLEOD then read a communication on a case of "Cleft Palate," see page 407.

Mr. WILSON said, that curiously enough he had, during last week, come across a similar specimen to that shown by Mr. Macleod, of the reappearance of missing incisor.

DRS. SMITH, WILLIAMSON, and Mr. BROWNLIE made some remarks on the cases of cleft palate.

Mr. BROWNLIE then showed two temporary canine teeth, which were distinctly honeycombed, after which he made a communication on, "Certain Mummy Teeth," see page 401. The teeth were viewed with great interest.

Mr. MACLEOD remarked that Mr. Brownlie had, in giving circumstantial evidence to prove that dentistry was not unknown in Egypt, overlooked the strongest presumptive evidence that the dentist was a necessity of the age, viz., that for certain crimes the Egyptians had to suffer loss of one or more of their front teeth. It was more than likely that the unwilling victim would hasten to remove all trace of transgression by having the void filled in by substitutes.

Mr. FERGUS said that the small size mummy wisdom teeth rather went against the theory that the *dentés sapientiæ* were gradually becoming smaller and would eventually disappear.

Mr. BROWNLIE, in reply, pointed out that the disappearance of the wisdom tooth was due to civilisation, and that the Egyptians were a civilised nation.

Mr. OSWALD FERGUS' communication on a case of "Irregularity" was then read, see page 407.

In the discussion which followed, Mr. BROWNLIE said that the first pressure of the canine would be upon the roots, and not between the crowns of the lateral and central, he, therefore, could not see that the ingenious theory was applicable to the case.

Dr. SMITH while admitting the ingenuity of the theory, suggested that it might probably be due to violence upon the temporary set. He remembered the case of a young patient who fell and landed upon an iron stand with the upper jaw, the temporary teeth were knocked out of sight; he watched the case and the permanent teeth came in a confused mass. In another case which he had at present under observation, the temporary teeth had been dislocated by a fall and the edges of the per-

manent set were appearing in an irregular manner ; he would not say that the cases of irregularity depended upon the injury to the temporary set, but in the two cases mentioned they certainly followed upon the injury. Mr. Wilson pointed out that bicuspid were frequently turned right round and they did not erupt upon an outer plane to their predecessors.

Mr. CUMMING then exhibited an ingenious contrivance for the operating room, in a combined gutta-percha heater gold annealer, and alloy weigher.

Mr. STIRLING (Ayr), showed a case of irregularity with apparatus for regulating the same, and model shewing results.

Mr. CROMBIE showed a model of a case of supernumerary lateral.

Mr. REES PRICE called attention to a statement of Mr. Blandy's at a recent meeting of the Midland Branch, regarding the admission of chemists to the membership of the Association. Mr. Blandy had claimed for his views the support of the Scotchmen ; as many of the members of the Western Branch of Scotland did not agree with Mr. Blandy's views, he would ask the Secretary of the Scottish Branch if they supported the opinions expressed by Mr. Blandy. The Secretary replied that they had not been in communication with Mr. Blandy on the subject. The proceedings closed with the usual vote of thanks.

In the evening the members of the Scottish and Western Branches dined together in MacLean's Hotel, St. Vincent Street. Mr. Campbell occupied the chair, and Mr. W. S. Woodburn acted as croupier. The chair was supported by Professor Macleod of Glasgow, Dr. Dunlop, Dr. Smith, Dr. Reid, The President of the Odonto-chirurgical Society, Mr. Brownlie, Mr. Biggs, and Dr. Morton, &c. After the usual loyal and professional toasts "The health of Sir John Tomes" was drunk with three times three. A pleasant evening was spent, the toasts being varied with songs and recitations.

On Saturday morning the members of the Scottish Branch, on the invitation of the members of the Western Branch, proceeded by train to Greenock, where they embarked on board the steam yacht "Aérolite" and cruised down the Firth of Clyde, and explored the grandeurs of Loch Long. The skipper (Mr. Brownlie) kept the vessel hugging the shore, so that the voyagers might have a good view of the many snug villas and mansions which dotted the scene, and enjoy the luxuriant vegetation of flowers,

ferns and firs for which this mountainous coast is famed. At three p.m., the yacht was brought to at Hunter's Quay, and the company, which included a few ladies, were conducted to the "Yacht Club House," where they partook of a most welcome, and sumptuous luncheon provided by the Western Branch. After luncheon the party was photographed and then re-embarked and had a two hours' cruise round Holy Loch, returning to Greenock about 6.30. Before parting, the President of the Scottish Branch thanked the Western Branch for their most hospitable and successful entertainment.

Eastern Counties Branch.

THE Annual Meeting was held at Lincoln, on Wednesday, June 30th, Mr. R. W. WHITE in the chair.

The TREASURER in his report, stated that the financial condition of the branch was satisfactory. The expenditure during the past year had been very slight, and left a balance in hand of £3 10s. 8d.; there was £14 in hand; he would suggest that ten guineas of it be handed to the Benevolent Fund, which was agreed to.

The recommendation coming from the Council that Bury St. Edmunds, in Suffolk, should be chosen as the place of meeting for 1887, and that Mr. Tracy, of that town, should be elected President for the ensuing year was adopted.

The CHAIRMAN proposed the re-election of the present Hon. Secretary, Mr. Rhodes.

Dr. CUNNINGHAM seconded the proposal, which was carried.

Mr. F. Hall, Mr. A. Kirby, and Mr. T. H. White were elected members of Council, in place of those retiring.

The CHAIRMAN then made a few remarks of a valedictory nature, alluding to the much-regretted illness of his father, and of Mr. White, of Lincoln, and concluded by proposing a vote of condolence and sincere sympathy with the family of Mr. White, of Lincoln, which was seconded by Mr. Bridgman, and carried.

Dr. C. M. CUNNINGHAM communicated a "New Split Plate on Coffin's System for the Lower Jaw to act upon the bicusps and molars without moving the incisors and canines." After discussion, the thanks of the meeting were passed to Dr. Cunningham for his communication.

Mr. A. HOWARTH exhibited and explained the mode of working

a new flask. He also shewed an exceedingly ingenious articulator, which could be used for any number of cases at one time.

The Chairman here retired, and the chair was taken for the rest of the meeting by Mr. F. Hall.

Mr. A. KIRBY read a paper, which was illustrated by diagrams, on the "Home Preparation of Nitrous Oxide Gas" (see page 410).

Dr. CUNNINGHAM opened a discussion on Mr. Fisher's paper read at Cambridge, on "Compulsory attention to the teeth of school children." He said, In opening this discussion I have to say I have received a telegram from Mr. Fisher, stating that he is unavoidably prevented from attending to day. The paper which he read at the Cambridge meeting last year is, I am sure, one that deserves not merely the attention of every medical man, but of every parent and every teacher within the border of this country. I disagreed at first with the writer's advocacy of compulsory attention to the teeth of school children, but I have since become convinced that he was right in making a strong point of compulsory, as contrasted with optional attention. When I was in America I remember being asked to operate for a school of very poor children, they were very common children, picked out of the gutter, so to speak, in Boston. Every year the children had their teeth carefully treated. I went round the hospital, and the children's wards, and clean bedrooms. I was much interested as a dentist to see the children go through the tooth brush drill after the evening meal. The Committee who were responsible for the management of that institution treated the children as if they had been their own children. In the course of Mr. Fisher's paper, he calls attention to a dental appointment, which was made in connection with one of the district schools at Anerley for poor children; he not only draws attention to the fact, but makes a statement as to the number of children, their ages, and the amount of remuneration the dentist gets for his work. There are 850 boys and girls, between the ages of three and sixteen, and he has a salary of £60 a year. He attends one morning in each week. Now that man is either over-paid or under-paid. He is over-paid if he does not do his work thoroughly, he is under-paid if he is conscientious; but we must not judge the work from the standard of the ordinary practitioner. Mr. Fisher's paper has not met with that amount of attention which it ought to have received. I would ask you to do what you can to help on the work which he has undertaken, and undertaken so well. In his paper he suggests that instruction should be given

by means of dental lectures, to be included in the health series. In Manchester, I believe, they have had for years a whole series of health lectures. I have looked at the series of health lectures published at Edinburgh, and a similar course published at Glasgow. One of the favourite subjects is Sewers, a most important subject—the subject of the care of the mouth and teeth was not once included. I wonder what the reason is. I think it is for us to teach the public that the interest which we find around our chair is extended to larger circles. Mr. Fisher goes on to suggest that every child's mouth should be examined on its entrance into school life, and this examination should be continued, of course, throughout the period of its school career. I have in my hand a pamphlet, containing instructions relative to the examination of the mouth by Dr. Magitot, who is a member of the Society of Scholastic Hygiene. This is a society of public medicine, where they have compulsory education, the medical man makes a certain examination, necessarily gives a certain amount of attention to the teeth, and this paper is published for the purpose of assisting him with technical advice. We have no society that exactly corresponds to this. There is, however, an association of certain medical officers who are attached to public schools, and they hold meetings for the reading of papers; and I think myself that if they comprehended for a moment the importance of the question, they would arrange to include amongst their medical officers, the dental officers attached to this establishment. Mr. Fisher's paper of course suggests certain practical difficulties, and what he says refers to a well considered provident system of relief. That is a question which is so very large in itself, that it would take a great deal of time to discuss, and therefore I think we can safely postpone any consideration of it to a later period. Mr. Fisher then goes on to point out that this work of saving the teeth of the children is of national importance, and I am quite sure he proves this by the reference that he makes to the requirements of those entering the Royal Navy; and there can be no question about the fact that it must be a great loss if we have certain men being trained in special schools for the navy, who eventually prove unable to perform their duties, probably for the lack of a little attention. Regular systematic treatment gives those poor unfortunate people who have not had an opportunity of getting all that training in youth which we hope to have when Mr. Fisher's views are carried out, an opportunity of making up for the past neglect of

their parents, medical man, or dental practitioner. I have been examining into the sort of men we get into the army. I assure you it is quite a rarity to come upon a mouth that you can characterise as perfect. I possess a record of fifty-six cases, and out of the fifty-six there are three who have all the teeth present, and perhaps one or two a little decayed. There are only two with perfect teeth. All the others have got any number of bad teeth, and the majority of them would have been all the better if they had had twenty-eight sound teeth, instead of thirty-two teeth struggling into existence; and above all, they suffer as you may reasonably expect from deposits of tartar and consequent disease of the gum, and after a certain period of life we know that we can save more teeth by attending to the removal of tartar than by stopping teeth.

The CHAIRMAN made some observations upon the ignorance of the general medical profession upon the subject, illustrating them by an amusing anecdote of a conversation with the medical superintendent of an institution of public charity, and urged that it would be a great boon to all men holding public appointments if it were compulsory, that it would be a great benefit to the rising generation, and that it was a matter that wanted to be pressed forward by some one who had the opportunity to do so.

Mr. HOWARTH said the public would not properly understand the question until dental hospitals were established in all towns, and that popular literature upon the subject would be of great assistance, if it was of the right sort; he endorsed Dr. Cunningham's remark about the ignorance of medical men about dentistry.

Mr. WHITE: There can be no two opinions that it would be a desirable thing to have compulsory attention to the teeth of school children, but I am afraid it will be a long time before that comes to pass. The next nearest thing will be for the dentists to push the education of parents in the care of the teeth of children as much as they possibly can. Another thing would be for dentists in towns and districts to use all the influence they have to try and get appointments to schools, hospitals, and other public institutions. We cannot but be in harmony with Mr. Fisher's paper, whether it is workable is another question.

Dr. C. M. CUNNINGHAM: In an age when people are inclined to throw over the compulsory benefits of vaccination, I think it is quite unlikely that such a proposition as Mr. Fisher's is likely to be lightly adopted. It would be almost utopian to expect that it should be so. I presume Mr. Fisher has brought it up more as a

topic for discussion than in the hope that he could so far succeed in overcoming human prejudice as to get his proposition carried.

Dr. G. CUNNINGHAM, in reply, said that the subject was ripe for discussion. He thought that medical knowledge was in a fair way to improve, and that signs of improvement were already shewing themselves. He hoped to see a special Committee appointed of the British Dental Association, whose business it should be to edit a certain amount of literature for the benefit of the profession, as a means of counteracting the quackery of certain dentists.

Mr. LENNOX exhibited a simple form of mouth mirror.

The Annual Dinner of the Branch took place at the Albion Hotel the same evening. Among the guests were Dr. Mitchinson, Mr. Sept. Lowe, Dr. Carline, Dr. C. G. Dalton ; Dr. G. Cunningham presided.

Western Branch.

THE Annual Meeting will be held, by the kind permission of the President and Committee, in the Board-room of the Devon and Exeter Hospital, Exeter, on Friday, 30th July, 1886.

The order of proceedings will be as follows :—

9.45 a.m. Meeting of Council, in the Library of the Hospital.

11 a.m. General Meeting of Members, for the transaction of business—President's Address—Reading and Discussion of Papers.

1.30 p.m. Adjournment for Luncheon.

2.30 p.m. Business of Meeting resumed.

7.30 p.m. Dinner at the Rougemont Hotel. Tickets, 6s. 6d. each. Members intending to be present are requested to make early application to the Hon. Secretary.

It is proposed to make up a party to go in four-horse brakes, from Exeter, on Saturday, July 31st, starting from the Rougemont Hotel at 10 a.m., over Haldon to Bovey Tracey, Haytor, Becky Falls, and Moreton, returning to Exeter *via* Dunsford Bridge, a trip embracing some of the finest scenery in Devonshire, including portions of Dartmoor. The party will reach Exeter in time to catch the evening trains. The arrangements will be greatly facilitated by an early reply, as it will be necessary to know some days beforehand the number that may be expected, to provide the necessary brake accommodation.

Subscriptions due August 1st, should be paid to the Honorary Treasurer, J. T. Browne-Mason, 6, Southernhay, Exeter.

Gentlemen desirous of becoming members should apply to the Honorary Secretary of the Branch, Henry B. Mason, 3, Bedford Circus, Exeter.

Hotels in Exeter are—"Rougemont," "Clarence," and "New London."

Papers and Demonstrations have been promised as follows:—

Papers.

Joseph Walker, M.D. St. And., M.R.C.S. and L.D.S.Eng.—
"Some of the difficulties of mounting teeth on the bar principle."

J. M. Ackland, M.R.C.S. and L.D.S.Eng. — "Anæsthetics, general and local, including cocaine."

A. C. Roper, M.R.C.S.Eng., L.R.C.P.Edin.—"The medical treatment of dental abscess."

Louis Toswill, B.A., M.B. Cantab, M.R.C.S.Eng.— "Dental irritation, in relation to diseases of the eye."

W. Penfold, L.D.S.I.—"How to prevent failure in stoppings."

W. A. Hunt, M.R.C.S.Eng., L.R.C.P. Lond.—"Palladium and some of its uses and peculiarities."

Geo. B. Pearman, L.D.S.Eng.—"Regulating teeth" (illustrated by models).

Demonstrations.

H. P. Fernald, L.D.S.I.—"Gold filling."

F. H. Balkwill, L.D.S.Eng.—"A method of transferring section gum-blocks from the wax trial-piece to rubber, by packing on the model."

The demonstrations will be given at the Dental Hospital, in Bedford Circus.

Southern Counties Branch.

THE First Meeting of this Branch will be held on Saturday, 24th of July, at the Town Hall, Brighton, when the pleasure of your company is earnestly solicited.

Programme.

12.0 a.m.—Meeting of Council.

1.30 p.m.—Luncheon at the Old Ship, to which the members and visitors are invited by the President.

3.0 p.m.—General Meeting.

The President, S. L. Rymer, Esq., L.D.S.Eng., will deliver his inaugural address.

The following gentlemen have kindly undertaken to introduce the following subjects :—

Morgan Hughes, Esq., M.R.C.S. and L.D.S.Eng., "On a case of Trismus caused by dental irritation"; C. H. Bromley, Esq., M.R.C.S. and L.D.S.Eng., "On Composite Fillings"; J. H. Whatford, Esq., L.D.S.Eng., "On the treatment of Pyorrhœa Alveolaris"; J. H. Redman, Esq., L.D.S.Irel., and D.D.S.Phil., "On a case of malignant disease of the Jaw."

6.30 p.m.—Dinner at the "Old Ship."

Tickets for the dinner, 7s. 6d. each (without wine), to be obtained of the Hon. Secretary. An *early* application is urgently requested. After Wednesday, the 14th, an extra charge of 2s. 6d. will be made for the dinner ticket.

J. DENNANT, *Hon. Secretary*,
1, Sillwood Road, Brighton.

N.B.—Members will oblige by forwarding their annual subscription of 5s. to the Hon. Treasurer, J. H. Redman, Esq., 97, Buckingham Road, Brighton, as funds are urgently needed to defray expenses. The subscription of One Guinea to the Parent Association should be forwarded to the Treasurer, James Parkinson, Esq., 40, Leicester Square, London.

ORIGINAL COMMUNICATIONS.

How to Mould, Fire and Fix a Tooth Crown.

By A. B. VERRIER, Weymouth.

So much has been written of late on the methods employed in pivoting artificial crowns that I should be obliged if you will allow me space in your Journal to describe simply a plan which I have adopted. I have patiently tried and tested the various systems advocated by their inventors, and I have in many cases been successful in accomplishing good work with most systems; but after all I have, I suppose, naturally more faith in my own work. I will not attempt to speak of its advantages, let others test for themselves the merits of the system I advocate. The result will be pleasing to all concerned and will help those who are fond of the artistic methods of doing things, to carry out the different processes and retain that which to them seems to offer the greatest advantages. I do not claim for my process superiority over the

work of others, but as we all differ as to the best mode of doing things, it may be found by some more specially adapted to their taste, and the result more in accord with their views. The thoroughness of the system will much depend upon the selection of a suitable case. In short, the root to which a crown is to be secured must be sound, and its vitality proved by a close and skilful diagnosis of its surrounding tissues. Having decided to crown "the headless" root we may commence the work by simply grinding it down on a line with the margin of the gums. Having done this the root must be hollowed out so that the cavity thus formed shall be larger on its inner surface than at its orifice, a very accurate mould of the margin of the root must be taken so that the crown which has now to be made shall fit it pretty accurately. I take the mould of the root with Braun's compo, from which I make a plaster cast. Dry, and harden off by boiling it in a solution of borax. To the plaster model, I mould in paraffin wax a facsimile in shape of the intended mineral crown, and adjust it in the mouth to the antagonism of the upper or lower teeth, as the case may be, and then carve it into shape to match the natural neighbouring organs, this done, the next step will be to make a mould of the paraffin wax crown, as follows: Take specially prepared fire clay, very fine, two parts, finely powdered silex one, by bulk, and mix this with water sufficient to make it into a very stiff mass. A small quantity of this mass must be well kneaded into a ball, and then placed upon a smooth slab, into which the wax crown and stud must be half embedded, taking care that the mass be closely packed with a spatula against the sides of the wax crown, finishing off the half mould evenly. We have now one half of the mould of the wax crown embedded in the fire clay. Now proceed to mould the upper half of the crown, by simply packing more of the modelling clay upon the lower half of the mould, but before doing this, some material must be dusted over it, so that union of the two halves shall be prevented, French chalk or finely powdered asbestos being the most reliable. The wax crown must be melted out of the mould by exposing it to a very gentle heat in the furnace, and when thoroughly dry, it may be fired until of a dull red heat. When cold the mould may be separated, glazed, and kept in stock for future use, and should be a true matrix for the reception of the material from which the artificial crown is to be made.

For the purpose of retaining the crown in position with the root,

a stud of platinum wire flattened at each end must be fired into it. In each half of the matrix corresponding with the neck of the crown, the stud is to be inserted to about half its length, simply to hold it in position during the process of biscuiting. To facilitate the packing of the tooth crown material, both halves of the matrix may be filled separately and then placed together, dropping in a little water to bring the mass together. The mould and contents are then to be dried slowly, and fired up to a very dull red, then tapped out of the mould and fired again, previously having repaired any defects arising from the first process of biscuiting.

To attach the crown it will be necessary simply to burr out the root to the desired form, and then by means of corundum wheels to conform it to the shape of the margins of the cavity. To cement the crown in position with the root, I generally use Poulson's mineral plombe, as I find this the most reliable of all white stoppings, and as a cement for this special purpose, by far superior to any other for its durability and freedom from irritability to the surrounding tissues.

The following four papers were read before the Scottish and West of Scotland Branches on the 4th of June:—

On Certain Mummy Teeth.

By J. R. BROWNLIE, L.D.S.Eng.

THROUGH the kindness of the friend who extracted them, I have the opportunity of submitting to this meeting four mummy teeth, members of the same set. Obtained fifty years ago (April 1836), they have been retained by him simply as a souvenir, and with no suspicion that they were of any special interest or value. They are from the tombs of the Queens, opposite Thebes in Upper Egypt. The tombs having been plundered by the Arabs, and not the tombs only, but the mummies themselves, for the sake of the asphaltum used in their preservation, the fragments were left scattered about. From one of these fragments the teeth were obtained. This no doubt accounts for certain deficiencies in the form of the two front teeth and in the crown of the second molar. The broken edges are too sharp-looking, compared to the worn condition of some of them, to leave room to believe that these breaks took place during life. The larger of the molars I take to be the second molar (they are all of course upper teeth), and it is

deficient also in the length of its fangs, but the exposed surfaces want the weather mark of the other breaks, they are clean and fresh compared to them and at once suggest that they were broken in the extraction of the tooth.

The front teeth, probably incisor and canine, are very much worn. Sand finding its way into the food and mouth might account for this, but it is probable also that this excessive wear is due also to defects and deficiencies at the back of the mouth. The enamel as seen in section at the worn part is very thin, but these two shew no signs of caries. The second molar is much less worn, and excepting a tiny cavity of decay on its mesial surface, is otherwise a well formed specimen of its class. This one does not seem to have been used to anything like the extent of the front teeth, and suggests defects and deficiencies in the opposite jaw for some considerable period of life. The other molar, clearly the wisdom tooth, shows no mark of wear. It does not seem even to have come in contact with its fellow of the opposite jaw, and is altogether a most interesting specimen. In its crown there are, in respect of origin, three distinct varieties of caries. On the mesial surface a large cavity; on the grinding surface a fissure cavity, due to imperfect fusion of the enamel in the grooves; and on its distal surface the enamel has been wasted somewhat by superficial caries, as we so often see it now-a-days, leaving the dentine exposed and a prey to caries because of exposure.

It will be noticed that this tooth is of comparatively small size, and indeed in this respect it in no way countenances the view that the modification in size and form of the *dens. sap.* is at all a progressive change. The tooth may be 3,500 years old, but there is nothing in its size or shape to distinguish it from its successors of the present day. I enquired specially on this point, and my friend assured me the teeth were all taken out of the same head.

In a note to Rawlinson's Herodotus, Wilkinson says of the Egyptians, "that they had adopted a method (of no very old standing in modern practice) of stopping teeth with gold, is proved by some mummies found in Thebes." Coleman has explained that the gold was probably *on* the teeth and not *in* them, and derived from the practice of gilding the lips in the more costly method of embalming.

We are still, so far as I know, without examples of the work of our predecessors in ancient Egypt. Though Wilkinson was mis-

taken in the matter of gold filling, Herodotus distinctly affirms that there were dentists in those days. In Euterpe, c. 84, he says, "Medicine is practised among them on a plan of separation, each physician treats a single disorder and no more, thus the country swarms with medical practitioners, some undertaking to cure diseases of the eye, others of the head, others again of the teeth, others of the intestines, and some those that are not local."

The conditions may not have been favourable for the preservation of examples of our art as then practised, especially if associated with precious metal such as gold, nor has the search, so far as I know, been such as would tend to reveal their presence, supposing such things to exist. The eye of an expert would probably be wanted to recognize their existence, but the teeth of the present day have an absorbing interest for the dental practitioner. Still it is hard to believe that a people who were addicted to wearing false hair, false beards and false gems, should fail to imitate those natural gems—their teeth, or that a people who had made such progress in the art of adorning the person as is indicated by the earrings, finger-rings, bracelets, armlets, anklets, and gold necklaces, and the very elegant shoes and low boots as have been found in the tombs, should be content to suffer without attempting the arrest of, this painful disorder, and of repairing the unsightly deformity to which its progress gives rise.

Electricity as an Adjunct to Surgery.

By P. CROMBIE, L.D.S.Eng., Aberdeen.

THE properties of electricity and their adaptation for medical and surgical purposes has, of recent years, been the subject of much patient investigation and scientific research both in Europe and America. Men of high standing in medicine and surgery have been directing their attention to the matter and with a certain measure of success. That there are still differences of opinion expressed on the matter is only to be expected, but it is now generally admitted that electricity may be used with advantage in many forms of disease, and that in judicious hands it is a valuable assistant in surgery. Although the existence of electricity as a natural influence has been known for centuries, and although in more recent times its properties have become better understood, it has not until of late made much progress in its

application as an adjunct in the healing art. When previously tried for this purpose, so many disappointments attended its application that it was almost abandoned as a failure, but since the matter has again been attracting attention, it is shown that it may be used in many operations, especially those connected with the mouth or in cavities where there is difficulty of access by the ordinary method, and where there is danger from excessive or difficult-to-be-controlled hæmorrhage. That it should have been so far a failure on first trials need not have been at all surprising; there are few things of any importance either in medicine or surgery that have not required many trials before being finally proved of service. We need only instance ether, chloroform, and nitrous oxide.

Electricity being a very subtle and peculiar agent difficult to understand, surrounded with an air almost of the mysterious, that it should require long and patient research to comprehend its peculiar properties is from its nature just to be expected, and from this lack of knowledge concerning it, may be attributed the want of success previously attending its application.

Although all electricity from whatever source derived, may have certain properties in common, it is but reasonable to suppose that there must be an important distinction between the properties of static and dynamic electricity, or electricity developed by friction, and that developed by chemical action and magnetic electricity or faradisation. In its application, the volume and intensity with which it is applied, should also require to be taken into account. It is exceedingly likely that the cause of many of the apparently dissimilar actions exhibited by it under seemingly the same circumstances, was that such distinctions were not properly appreciated or comprehended. To the elucidation of this part of the matter, much careful consideration would require to be devoted, and as it becomes more clearly understood the advantages to be derived from electricity as a medicinal agent, will no doubt be proportionate. In other departments of usefulness the application of electricity is being rapidly developed. At present it holds an important place in conducting the business of the world. A few years ago it could not have been imagined that it would occupy the position it now does, and who can tell to what perfection of usefulness it may not be advanced.

Seeing this is so in other departments of science, may it not be equally so in its application in medicine and surgery? That there

are special difficulties besetting its application in medicine, may be readily inferred from the obscurity which in many cases surrounds the diagnosis, but this does not necessarily apply in the same degree to surgery, as the object to be attained is more readily apparent and can with greater certainty be determined.

The number of operations that are now being performed through its agency, by means of the platinum loop and knife, at the principal hospitals by leading surgeons, attest the growing confidence in this new departure in surgery.

Dr. Barthlow, in his admirable treatise on medical electricity, gives a carefully compiled account (with the authorities from which it is derived) of a number of those operations, and the advantages claimed for them in preference to the ordinary method. They are claimed as bloodless, and almost free from shock or pain—conditions of vital importance.

To us, as dental surgeons, those operations connected with the mouth and adjacent parts are of special interest. Amongst the many cited may be noticed a number of cases of a minor nature, such as excision of polyps of the larynx, nose, and ear; but the most important, and that to which particular attention is directed, is that of excision of the tongue, regarding which he says, quoting from Dr. Bryant ("Clinical Lectures on Bloodless Operating," published in the *Lancet*), by whom the operation has been frequently performed: "There are no operations that the surgeon has to perform, which have been more benefited and simplified by the introduction of the galvanic cautery than those upon the tongue; for there are none in which, without its use, hæmorrhage is more troublesome or dangerous, and there are none with its use which more satisfactorily exhibit its bloodless character; indeed, before the introduction of the galvanic cautery or erasure, operations on the tongue were very rarely performed."

But again, in the same lecture, he says, "By the use of such instruments carefully employed, no fear of bleeding need disturb the mind of the operator, and what was a very serious measure has become comparatively a simple one." No higher testimony could be given in commendation of the advantage and importance likely to accrue from the employment of this agent in operative surgery.

A dental surgeon, as a rule, is not called upon to perform such extensive operations as that of excision of the tongue, but there are many smaller operations involving considerable pain and

hæmorrhage, which he is continually being called upon to perform, and in which electricity might be used with great advantage and prove a very valuable assistant. Anything that can in any way add to the usefulness, success and advantage of our particular department, is worthy of consideration and attention. This is an extensive subject and of much practical importance, well deserving attention on the part of all who seek to promote the interest and advancement of our particular department. I am quite aware that to a very limited extent electricity has already been employed in dental operations and in the extraction of teeth, and also that so little success has as yet crowned the effort that it has not become a favourite mode of operating, but it is quite possible that the failures hitherto experienced may to a certain extent be traceable, as we have already said, to a want of discernment in the proper mode of management and application of the agent. With improved appliances and advanced ideas, it is quite possible that even here it may yet prove a success. Like every new experience, there is no doubt it will take time and much labour before this new and somewhat novel method gains anything like general confidence, but as practice in its use becomes more recognized, greater expertness of application would be acquired.

At present one of the greatest hindrances to its use is the difficulty in maintaining the electric current for any length of time at an equal strength, but already improvement even in this direction is being effected. At no distant period, a considerable change may be expected to take place in many of our modes of operating, and those changes there is every reason to believe will be greatly influenced by the agency of electricity. Not only may the soft parts be readily operated upon by its means, but we think its usefulness will be much more largely developed in other ways as well.

We live in an age of advancement, where science is affecting many wonderful changes in adapting the forces of nature to the requirements of man, and now that this widely diffused and all-powerful influence is attracting so much attention and study, it may be expected to yield, when its properties are more fully investigated, results that will greatly benefit both the dental as well as the general surgeon.

Cases of Cleft Palate.

By W. BOWMAN MACLEOD, L.D.S.Edin.

MOST of you may remember a paper "On the Relation of the Alveolar Form of Cleft Palate to the Incisor Teeth and the Intermaxillary Bones," by Professor Wm. Turner, re-published in our Society Journal in the months of March and April, 1885. In that paper Professor Turner followed up some researches by Dr. Paul Albrecht, of Brussels, and brought further evidence in a series of casts of cases of cleft palate to support the theory advanced by Dr. Paul Albrecht, viz., that the intermaxillary bones were developed from four centres, and not from two as previously taught by anatomists, and that the cleft takes the direction between the central and lateral intermaxillary bones, and not as before supposed, between the intermaxillary and maxillary elements of the upper jaw.

These two models illustrate this. The one with the right cleft being the model of the mouth of a girl about seven years old, the other, a left cleft, being the model of the mouth of a boy four years old, and each of them having the pre-canine on the distal side of the cleft. No. 3 is a model of double cleft with the artificial palate and velum *in situ*, while No. 4 supports the theory that man has at one time been endowed with six incisors, and that the missing incisor—as shown in a paper read before the Odonto-Chirurgical Society, by Mr. Andrew Wilson, in March, 1885, is the original second incisor, or, in other words, the incisor between the central and the pre-canine.

A Case of Irregularity.

By OSWALD FERGUS, L.D.S.Glas., D.D.S.Phil.

It is my wish in the few moments so kindly placed at my disposal, to bring before the notice of this meeting an irregularity of a somewhat unusual description, one whose origin is rather obscure, whose result so far as the patient is concerned implies a hideous deformity, and whose cure, should that be attempted, is exceedingly problematic. The case is one of torsion of the right superior central with a transposition in the positions of the lateral and canine of the same side.

The patient, a lady of about thirty years, consulted me a few months ago regarding the irregularity, which by no means en-

hanced a face in which the other features were more than ordinarily regular and well-proportioned. She expressed willingness to undergo any inconvenience short of losing them entirely, if they could only be "put straight," and so anxiously did she desire that *something* should be done that I took an impression, the result of which is before you, and which led me to decide that, considering the circumstances, no operation short of a radical one could be well expected to succeed.

As will be seen from a survey of the model the right central incisor is turned through almost a half circle, so that the lingual surface properly so called has assumed a *labial* aspect, and *vice versa*. Next to the central and lying almost directly behind it, is the canine, itself rotated somewhat towards the median line, while to the distal and outer surface of the latter canine tooth is the displaced lateral incisor, the torc (in this case) being towards the median line as formerly. Finally, beyond the transposed lateral is what remains of the temporary canine root.

Turning from effect to *cause*, I confess that I was somewhat at sea till I sent a duplicate model to a gentleman who has devoted considerable attention, not only to the treatment of irregularity, but also to the developmental conditions. In a letter to him, I said "'A freak of nature' will not explain it to one who believes that nature never plays, and whose firm conviction it is that effect is produced by a definite cause. The retention of the right temporary canine may have caused the displacement and partial rotation of the permanent tooth (canine), but surely it cannot have exercised its influence with such power as to have affected so completely the position of the central. So far as can be made out from examination both of the parts and of the cast, there is no trace of a lack of development of the anterior part of the jaw, which among certain authorities, is a recognised cause of irregularity of the present nature."

Sometime afterwards I was favoured with the following reply: "Many thanks for sending me the model, it is a very interesting one, and not, I fancy, a mere 'freak.'"

"As far as a somewhat hasty consideration of the case goes, it seems to me that the canine is the real offender, and should suppose that the *modus operandi* is somewhat in this wise. The canine was developed higher up and more forward than usual, so that it lay, as they often do, almost over the apex of the root of the lateral. Then when its descent commenced, influenced a

little perhaps by the retention of the temporary canine, it, instead of slipping behind the lateral, got its pointed end between the central and lateral, and a little outside them. As it descended further, thrusting its wedge in between them, it separated them, forcing their contiguous borders inwards at the same time. The lateral it rotated but little, but the central it rotated through a quarter of a circle or more, so that its line of least resistance came to be inside the arch. I am afraid that the conception is not a little crude, but it is the most feasible explanation that occurs to me.

"As to treatment, if the patient likes to go in for a venture, I would extract the canine, and after waiting a while for its socket to somewhat heal, extract the central and replant it with the other side foremost—torsion, at her age and to that extent, would, I think, be about equivalent to replantation, for it would probably come out—but this only if the patient goes in for 'kill or cure' with a full understanding of its risks, otherwise let it alone."

This letter, gentlemen, while offering a surely highly probable cause of the disturbance, did not overcome the prejudice, it may be, that I had formed regarding any attempt at regulation. Had the patient been younger and had the other teeth been more numerous, or had the mouth presented a healthy condition, one might have attempted the venture, but where the chances of kill seemed so high and the chances of cure so low, I deemed it well to let the matter alone.

The question not unnaturally arises, might not the conditions here presented have been prevented by judicious interference at an earlier period. Granting that the theory which has just been propounded is a correct one, granting that the canine is the cause of the mischief, and granting that its development and exception were as already described, then I think the removal of the canine tooth itself would have resulted in a dental arch noticeable in its want only to the most critical eye. No doubt the canine is one of the most important of the dental series, not only from its durability, but also from the characteristic appearance it imparts to the angle of the mouth, but there are circumstances, and I think they are amply illustrated in the case before us, when sacrifice of the offender is as much the duty of the patient to submit to as it is of the operator to urge.

The Home Preparation of Nitrous Oxide Gas.*

By A. KIRBY, L.D.S.Eng.

THE subject which I have chosen has not, I believe, been touched upon by any of our members, and was in a measure suggested to me by a remark made by one of my father's assistants, to the effect that it was less trouble to make gas than it was to pack and unpack gas bottles from the makers, and that he would sooner do so.

I thought, therefore, that if the method was brought more prominently forward it would prove a convenience to many practitioners. The apparatus which we use at home was designed by my father more than twenty years ago. It is perfectly simple in its details and not at all liable to get out of order. I think the fact of our own having been in constant use without alteration or repair for twenty years is a proof of its durability.

I propose first to go roughly over the general chemical features of the production of nitrous oxide; secondly, to describe somewhat fully the apparatus and the manner of its use; and finally to briefly compare the advantages and disadvantages of home-made gas with compressed or liquified nitrous oxide.

All of us are, no doubt, aware that nitrous oxide gas is made from the destructive distillation of nitrate of ammonia by the action of heat. Nitrate of ammonia, when heated in a suitable vessel, such as a glass flask or retort, melts at a temperature of 230° F., at 360° F. it boils, and undergoing decomposition, at 460° it is converted into nitrous oxide gas and water.

If heated above 500° F. it forms nitric oxide, ammoniacal gases, &c., and as these are very poisonous, it is necessary that the ammonia be kept at an even and suitable temperature which requires either constant watching or the use of an automatic regulating apparatus, by the use of which the temperature is prevented from rising too high.

It is possible that the ammonia used may not be quite pure, but this is very unlikely, if it be purchased from respectable manufacturers; but is, nevertheless, useful and advisable to employ wash bottles or purifiers to pass the gas through before collecting it in the gasometer.

I have prepared a few rough diagrams which may help to the understanding of the apparatus. In the first place there is a glass

* Read at the Annual Meeting of the Eastern Counties Branch, June, 1886.

flask, into the neck of which is fitted an india rubber bung with a hole in it, through which passes a glass tube. This flask is suspended by a hook in a wooden chamber or box, which serves to protect the flask and gas flame from draughts and also to keep in the heat.

On the outer side of this box, at the top and near the back edge is fixed a brass pipe, through which the coal gas passes on its way to the burner, and in this tube is placed an automatic extinguisher to shut off the supply of coal gas when a sufficient quantity of nitrate of ammonia has been decomposed.

It is unsafe to continue the decomposition of the ammonia with a less quantity than 6 to 8 ozs. in the flask, as a smaller quantity heats very rapidly and gives off the poisonous nitric oxide, &c., as before stated.

The action of the tap and way of using it is this: The flask having been at first charged with 6 ozs. of ammonia nitric, it is connected with the tubes as if gas were going to be made, and is suspended by a hook at one end of a lever. At the other end of this lever is a weight which can be moved along the lever and secured at any place by a screw. This weight is moved along until it just overbalances the flask and its contents, and is then secured at this position. The flask is now ready for its working charge and may be filled with any desired amount of nitric ammonia, and when this has been introduced, of course the weight will be held up by the flask and its contents.

The automatic extinguishing top is an ordinary stop cock fitted into the tube, which goes along the back of the box, but is provided with a long lever, weighted on one side, attached to it. This lever has a bent end which engages with, and is held up by the bent end of the first lever so long as this lever is kept up by the quantity of ammonia in the flask exceeding 6 ozs. As soon as the weighted lever falls from the charge of ammonia having become exhausted, the top lever falls also from its being weighted on one side and its support having been removed by the dropping of the other lever. As the top lever falls, it, of course, turns the tap in course and extinguishes the coal gas.

The flask is connected by glass and india rubber tubes to the bottle shown in the diagram, which is closed by an india rubber bung fitted with three short glass tubes. The first of these tubes comes from the flask and brings the nitrous oxide gas and water resulting from the decomposition of the ammonia; the second

tube is in communication with an automatic regulation for maintaining an equal temperature and so preventing over-heating, and the third tube passes on to the second bottle in the diagram. This bottle is also closed by a rubber bung fitted with two tubes, one communicating with the first bottle just described and the other to a third bottle, which is connected in a similar manner with the second and fourth bottles of the series. The fourth bottle is in its turn in communication with the third bottle of the gas-holder. These bottles serve a double purpose :

1. They are purifiers.
2. They maintain a pressure which is requisite to regulate the heat.

The first bottle is merely to collect the water of decomposition as it comes over from the flask and to cool the gas a little. The water remains in this bottle, but the gas passes out by a tube into the second bottle which is rather more than half filled with a solution of caustic potash (about 3j. to Oss.). The tube from the first bottle dips some distance into this solution, causing the gas to exert some pressure in overcoming the resistance of the fluid in the tube, and at the same time it washes from the gas any trace of acid. The other tube from this bottle is some distance above the level of the fluid and conveys the gas into the third bottle, which is arranged similarly to the last, with the first tube dipping into a solution of sulphate of iron (3iss. to Oss.) and is supposed to still further purify the gas.

Makers on a large scale, however, do not use the reagents, but simply wash the gas through clean water. The fourth bottle has the tube from the third led into clean water and from there straight to the gasometer. It will be seen that the gas has thus to displace several inches of fluid in each of the three bottles, which gives considerable pressure to the gas in the first bottle of the series. This pressure is necessary to regulate the heat and control the flames of the coal gas, which is done by means of the automatic regulator before alluded to.

This regulator is constructed as follows: two blocks of wood or iron are carefully fitted together with a flange between them. The interior is hollowed out to form a chamber which is filled with mercury. At one end of the chamber a vulcanite tube enters. This tube is joined by an india rubber pipe to one of the tubes in the first or pressure bottle and does not dip into the mercury. In the centre of the chamber is another vulcanite

tube which dips into the mercury and at its outer end is open to the air. At the other end of the regulator is a third tube which requires some explanation. The lower part is of glass and dips into the mercury, its upper end being filled with a brass cup, into which is screwed another iron tube which goes down the inside of the glass tube almost to the level of the mercury. This tube is in connection with the coal gas main, and all gas passing to the burner must pass through it. At its lower end is a Λ shaped notch and two or three small holes. A small tube is screwed into the brass cap of the glass tube at right angles to it, which is connected by a flexible rubber tube to the coal gas burner.

The action of the regulator is this :—When the pressure in the first bottle is increased from the too rapid evolution of nitrous oxide, the mercury in the regulator is forced by the pressure through the first tube up the third or glass tube and closes first the bottom of the inner iron tube, then gradually the V shaped slit, and lastly the holes in the side, reducing thereby the amount of coal gas allowed to pass to the burner and consequently diminishing the size of the flame, which can, however, never be completely extinguished as a small hole is left in the iron tube quite out of all possible reach of the mercury however great the pressure may be. Of course when by the reducing of the heat the gas is evolved more slowly the pressure becomes diminished and the mercury regains its position, thus allowing more gas to go to the burner again. The middle tube of the regulator is a vacuum valve by means of which air is drawn into the first bottle and flask on the creation of a partial vacuum in them produced by the cooling of their contents after gas has been made. If it were not for this valve the fluids might be drawn over from the wash bottles into the first bottle. It will thus be seen that the pressure of gas controls the temperature by adjusting the size of the flame of coal gas.

Although this appears complicated when thus described it is really simple and most easy to use, but when first made was objected to on account of its containing mercury, and a regulator was introduced in which a thin india rubber diaphragm took the place of the mercury regulator I have described. Since then our acquaintance with mercury in our vulcanizers has shown us there is no danger to precious metals in its use. On the other hand, if the rubber diaphragm gets perforated with only the tiniest hole, coal gas and nitrous oxide are allowed to mingle, producing a very

explosive mixture, with of course detrimental results to the nitrous oxide gas.

The gasometer in which the gas is stored may be kept in the lavatory or in a cellar, preferably the latter if the operating room can be arranged directly over it. It is best to have a gasholder consisting of a copper bell or dome in an oaken tub. The dome should be nearly balanced by a counterweight attached by a cord passing over pulleys to a ring in the centre of the dome. One of the pulleys should be of the shape of a fuse in a clock, so that the weight pulls over the thin at the lowest and heaviest position of the gasholder dome and over the larger parts as the dome rises and becomes lighter from the gas in it. This will allow equal pressure to be given to the gas by the dome at all states of its fulness. A pipe of large diameter, say 1 inch bow, may be led from the gas-holder to the surgery direct and a flexible rubber tube attached to the face piece, may be connected to it. Thus the gas-holder forms both a storage and an administering reservoir.

There are several advantages to be gained by exhibiting N, O direct from the holder. One is, it is about at a normal pressure and the patient hardly knows when it is turned. There is no cumbersome apparatus in the room to alarm our patients. By means of a tell-tale and clock dial, easily led from the gasholder to the operating room, we can see exactly what gas is available, and what quantity of gas our patient is taking.

In case of emergency gas can be made very quickly, so one need never be out of a supply. In giving gas to patients with large beards, the gas holder can be weighted and the gas forced forward so as to fill the face piece at all times, even during expiration, and so prevent the ingress of atmospheric air.

Who that has given gas from a bottle has not had a "plug" stick, and when one has thought the bottle empty the gas has suddenly burst forward with a deafening noise, bursting the indienne bag or filling the small gasometer suddenly and swilling the water all over the floor, and almost frightening a nervous patient out of their wits. Such an accident as this is impossible with gas given direct from a receiver at normal pressure.

New gas prepared a few hours, or even a few minutes before use, is more rapid by far in its action than gas which has been kept and seems to produce greater anæsthesia. It is, however, slightly pungent to the taste, and its after effects are slightly aggravated.

Although this has seemed a very long and intricate description

of the process, it is really perfectly simple. One pound of nitrate of ammonia will produce four cubic feet, or rather more than twenty-four gallons of nitrous oxide. If gas is required, it is shown by the tell-tale in the surgery, the assistant is told to make as many feet of gas as are required. He weighs out a quarter of a pound for each foot that is wanted, places it in the flask, replaces the bung, lights the gas with a small flame at first, covered by a bit of sheet tin plate to prevent cracking of the flask by sudden heating. After ten minutes or a quarter of an hour, he removes the tin plate and turns the gas on full, and does not again look at it until the click made by the falling of the automatic tap informs him the process is complete, he then turns off the tap in the main, which though not absolutely necessary, is desirable.

There is no trouble of packing and unpacking bottles and placing them under gasholders and no expense of carriage either to or from the manufacturers, and although it is not a first consideration, there is no possibility of short quantity. It is economical to make your own gas. One pound of ammonia costs, say 1s. 4d., and produces twenty-four gallons of gas, thus it will be seen that allowing for the coal gas consumed, assistant's time, and all contingencies, the nitrous oxide costs considerably less than one penny per gallon.

REPORTS OF SOCIETIES AND OTHER MEETINGS.

The New Dental Hospital at Brighton.

Opening Ceremony.

ON Thursday, July 1st, in the presence of a large number of medical practitioners, the Brighton, Hove, and Preston Dental Hospital, situate in Marlborough Place, Brighton, was publicly opened. The institution is small, but well adapted to the purposes for which it is required. The waiting room is entered from the corridor, and here ten or twelve persons may be comfortably seated, the operating room looks out upon the front. In the centre of the room is a dental chair, presented by Mr. O. A. Fox, the anæsthetic apparatus being close handy.

It is to be hoped that in a short time its work will warrant the acquisition of larger and more extensive premises. With this possibility in view, the Committee have refrained from incurring much expense in altering and renovating the building. The patrons

are the Mayor of Brighton (Alderman E. J. Reeves), the Right Hon. W. T. Marriott, Q.C., Sir Robert N. Fowler, Bart., and Mr. W. Percival Boxall, J.P.; Alderman D. Smith, J.P., D.L., has been elected President; and Mr. T. Billing, Dr. Ewart, Mr. S. Bevan Fox, L.D.S., Colonel Tester, and Mr. Marriage Wallis, Vice-Presidents. The Committee of Management comprise the Rev. T. Rhys Evans, Mr. J. Grinstead, Mr. J. R. Gwatkin, Mr. J. G. Harrison, Mr. D. Thomas, and Mr. J. Wells, whilst the honorary medical staff consists of the following:—Consulting surgeons, Mr. G. F. Hodgson, M.R.C.S.Eng., and Mr. F. W. Salzmann, M.R.C.S.Eng.; administrators of anæsthetics, Mr. E. J. Tulk Hart, M.R.C.S.Eng., and Mr. W. J. Stephens, L.R.C.P.; consulting dental surgeons, Mr. O. A. Fox, L.D.S., and Mr. W. L. Poundall, L.D.S.; dental surgeons, Mr. E. T. Ash, L.D.S., Mr. D. E. Caush, L.D.S., Mr. W. Harrison, D.M.D., L.D.S., Mr. S. P. Johnson, L.D.S., Mr. C. B. Stoner, D.D.S., L.D.S., Mr. John Wood, L.D.S., and Mr. W. R. Wood, jun., L.D.S. Mr. J. Wood has been elected treasurer, Mr. W. Harrison, hon. secretary, and Mr. G. Potter, assistant secretary and collector. The proceedings commenced with a meeting in the King's Apartments, Royal Pavillion, Brighton; Dr. Joseph Ewart presiding. The Secretary read letters from certain gentlemen regretting their inability to attend.

The CHAIRMAN, who was received with applause, after remarking upon the unavoidable absence of the Mayor, said they had heard from one of the letters that had been read that the Hospital which was about to be opened supplied a great want in the town. In fact, there was no institution of the kind, he believed, in the town. This department of surgery was now recognised in the practical form it ought to be. They had a dental surgeon attached to the Children's Hospital, and the work was carried out by Mr. Harrison to the fullest satisfaction of the staff of managers to that noble institution. Time was when these special branches of surgery and medicine were not recognised, but we had now in various parts of the country a department of surgery devoted entirely to diseases of pathology and diseases of the eye. We had in Brighton, even, a very excellent institution, founded a few years ago by a few enthusiastic medical practitioners—the Throat and Ear Dispensary in the Queen's Road. That was an institution which was doing a very noble and useful work amongst the poorer classes of the community. Then they came to the next

speciality to which he would make allusion, and that was the one that had called them there that day for the purpose of promoting its interests to the best of their ability. He meant the new Dental Hospital, the opening of which they were met to inaugurate that day. Dentistry, in his earlier days, was a special department of the profession, which had not risen to the eminence to which it had now attained. The cleaning and extraction of the teeth, the repairing of the teeth, and the insertion of new teeth to take the place of old ones which had been extracted was the sum and substance of what was called the practice of dentistry not more than a generation ago. Now they found members of the dental profession and of this branch of surgery, had to undergo a very severe preliminary training. They had to undergo the ordinary education and training which qualified them for membership of the Royal College of Surgeons. Thus they had to study those collateral branches of medicine and surgery which enabled them to bring to bear upon the practice of their speciality that knowledge which was so absolutely essential for the due performance of their duty. The consequence was, that they found now, as in other departments of science and knowledge, dentistry had not been behindhand in making progress. The object of the gentlemen who had been instrumental in promoting the development of the Brighton Dental Hospital was two-fold. They knew that all great hospitals, at least a large number in the country, had a two-fold object: the one was to educate and to train a body of medical practitioners so that they might render the most valuable help that they possibly could to the community at large. The other object of these institutions—and it was inseparable from that he had mentioned—was to bring to bear on the treatment of the diseases and affections the poor were likely to suffer from, the highest medical skill that could be obtained throughout the country. And these were the two objects for which that Dental Hospital was about to be established. That the able staff who had been appointed would succeed in attaining these ends he had not the slightest doubt. They were men who had by education qualified themselves according to the regulations of the Royal College of Surgeons, and they were duly registered as duly qualified dental practitioners, and they might rest satisfied that they would do all that within them lay to relieve the suffering of the poorer classes of the community who might seek relief from the institution. There was another point to which

he might make reference. He concluded with some observations upon the importance of artificial substitutes for lost teeth.

The Hon. SECRETARY read the following Report :— It is evident that no profession has made such progress during the past few years as dentistry. Dental surgery has risen to a very high position, from which it cannot be disturbed, being a recognised branch of the medical profession, having a special dental law and register, controlled by the Medical Council of Great Britain and Ireland. Dental societies, hospitals, and journals exist in numbers in these islands, America, and all parts of the world. Only a few weeks since, a branch of the British Dental Association for the South Eastern Counties was established, and will hold, I believe, its first meeting in this town, and to-day we have met to open a Dental Hospital for Brighton and district. In introducing such an institution to the public, as Councillor Dr. J. Ewart has so kindly consented to open this day, a few words of explanation are necessary. Firstly, it will be said, Will this Dental Hospital interfere with any other charity in the town? Certainly not. We are all aware that the Dispensaries and Children's Hospital have official dental appointments, but the work at these institutions, in a dental aspect, is very limited. At the Dispensaries only extraction of teeth is performed, and at the Children's Hospital filling teeth and other operations, beyond extractions, is done to a limited extent only. On the staff at this special Dental Hospital we have the dental surgeons of the Brighton and Hove Dispensary, Throat and Ear Dispensary, Blind Asylum, Homœopathic Dispensary, and Royal Alexandra Hospital for Sick Children. The support of these gentlemen is given as they feel the need of a special Dental Hospital. The Brighton, Hove, and Preston Hospital is intended for the relief of the suffering poor. Regulations :—1. The hospital is open daily (Sundays excepted) and Patients are admitted between the hours of 8.30 and 10 a.m. 2. Patients suffering from any disease, embraced in the practice of dental surgery, being in pain and requiring urgent relief, are admitted without a recommendation, and receive such operative assistance as may be immediately necessary. All others must be specially recommended by a governor or subscriber. 3. By the rules of the hospital, Life Governors are entitled annually to five letters of recommendation for special operations (for each donation of five guineas in one sum); Annual Governors to five (for each half-guinea annually subscribed); and

annual subscribers of five shillings, to two. The work of the Hospital is to be one of a strictly conservative description. The Committee wish to call attention to the building, which, although small they think will well answer the demands for a short time, till the Hospital is well known. Great attention was given to have it situated in a convenient part of the town for those who would be most likely to seek relief within its walls, and I think we have succeeded, as most of the poorer and working classes dwell in the north part of the town. The Committee desire to publicly thank those gentlemen who have so kindly assisted them in establishing the Hospital, and they especially wish to thank S. Bevan Fox, Esq., L.D.S., of Exeter (one of the founders of the Dental Hospital of that city) for the very valuable assistance he has rendered them. The hon. secretary concluded by quoting records of the work done at the London, National, Manchester, Edinburgh, and Exeter Dental Hospitals.

Mr. JOHN WOOD said twenty-five years ago it was first suggested that a Dental Hospital should be established in Brighton, but, after several meetings, it fell through. Some six or seven years ago it was taken up by a few prominent gentlemen in the town, but it again fell through. Just lately, however, a few more energetic gentlemen determined that something of the kind should be established, and after various meetings a public meeting of the members of the profession was called, and it was unanimously thought it was the right thing to do; but at the same time they considered that a most inopportune time, owing to the distress in the town, and that it would not be right to ask the town for support. But the promoters thought otherwise. They thought the most opportune time was when the poor required assistance, and he was now very gratified, and he was sure all members of the staff and promoters generally were, at this happy result of their meetings. He was sure the readiness with which gentlemen—medical men of the town, and dentists; men who had practised for many years—came forward to identify themselves with them, augured well for the future of that institution. It was said at the public meeting by one gentleman that that institution would injure the smaller dentists, but they did not think for one moment it would. The hospital only attended to those people who were unable to pay a small fee. The institution, he felt sure, would assist very much in the education of dental students, and in a large town like this, where there were so many dentists, he felt sure many would adopt dental surgery as a profession.

Mr. O. A. Fox proposed a cordial vote of thanks to Dr. Ewart or his kindness in consenting, at the twelfth hour, to open their Dental Hospital.

Mr. C. B. STONER seconded, and the resolution was carried unanimously.

Dr. EWART replied, and the proceedings terminated shortly afterwards.

REVIEWS AND NOTICES OF BOOKS.

ON DISORDERS OF DIGESTION, THEIR CONSEQUENCES AND TREATMENT, by J. LAUDER BRUNTON, M.D., D.Sc., F.R.S., Physician at St. Bartholomew's Hospital, &c. ; London, Macmillan & Co. : 1886.

MEDICAL authors may be roughly divided into three classes : mere makers of books prompted to write by personal motives, authors either suffering from the *cacoethes scribendi*, or labouring under a mistaken notion that they have a mission to fulfil ; and competent labourers in the field of science who periodically publish the results of their researches and observations. It is a misfortune for a medical reader if he cannot discriminate for himself between these classes, a misfortune which will probably manifest itself in bookshelves overladen with worthless literature. We need hardly tell our readers into which class falls the author whose work is before us. Wherever physiology is taught Dr. Brunton's name is as familiar as household words, and the study of his writings is necessary to all who would be fully informed upon the subjects which he discusses. This is especially true as regards digestion, and it is impossible to have a complete knowledge of this subject without mastering the facts which Dr. Brunton has elucidated. The present work consists of the Lettsomian lectures on Indigestion, delivered before the Medical Society of London, in the year 1885, together with numerous detached essays bearing upon the subject which had been previously published in various periodicals. The lectures constitute the most philosophical disquisition extant on the disorders of digestion. This subject has been a constant theme for fanatics and "faddists" of all kinds. The opinions of some of these writers we have had occasion to criticise in the Journal, and after their narrow views it is refreshing to turn to the strong masculine common-sense of the author.

Because alcohol in any form acts as poison upon a certain few individuals, therefore this valuable and often indispensable dietetic adjunct must be eschewed by the whole world ; because a nitrogenous diet is pernicious in the highly pronounced gouty diathesis, therefore the only safety for all is to be found in vegetarianism ; because tea and coffee contain active principles which render their excessive use hurtful, therefore they must be altogether avoided ; because tobacco is a deadly poison (in sufficiently large doses), therefore the moderate use of this agent, soothing and tranquilising to the nervous system, cannot be allowed ; because some individuals become slaves to gastronomic indulgence towards the approach of old age, when they are unable to digest or assimilate a superabundant dietary, therefore a starvation regimen is the proper thing for all individuals after middle age. These are examples of the fallacies which have been and are constantly preached by fanatical writers on food and feeding. Unfortunately it is impossible to instruct the public ; and until physiology occupies a much greater space in education than it is likely to occupy in our time, it is hopeless to expect that the mass of the public will be able to form any solid judgment for themselves on these matters. They must rely upon their medical advisers, and fortunate will be the patient whose medical adviser bases his treatment on the lines laid down by Dr. Brunton.

The Lettsomian lectures deal broadly and concisely with the main topic—disorders of digestion—and the detached essays discuss fully collateral topics, which could not have been included in the lectures without obscuring the principle subject. For example, we have an exhaustive essay on the physiological action of alcohol, another on the action of purgative medicines, and a third on poisons formed from food, and their relation to biliousness and diarrhœa. Mercury, alteratives, and tonics are each also separately dealt with. Every one of these subjects has been investigated by Dr. Brunton, and all his facts rest upon his own original observation and experiment. We have said more than enough to show our high appreciation of the value of Dr. Brunton's labours, and to recommend his work to the attention of all those interested in the subject of indigestion, and therefore to every dentist as well as to every medical practitioner.

THE TRANSACTIONS OF THE ILLINOIS STATE DENTAL SOCIETY FOR 1885.

WE have been much interested in perusing the Transactions of the Twenty-first Annual Meeting of the Illinois State Dental Society, and congratulate the society on having attained its majority with such evidence of maintained vigour as is shown by the greater part, we will not say all, of the essays and discussions contained therein. The high morale and standard of practice upheld, and the aspirations expressed for the future, if realized, cannot fail greatly to advance the efficiency of our speciality and increase the estimation in which it is held by the medical profession and the public at large.

The same may be said of the presidential address, which breathes throughout the spirit of progress and liberality. The effect of the address as a literary production is, however, seriously marred by a very eccentric use of what may be termed the editorial "*we*." This is not the first time we have been astonished and amused by the singular inappropriateness with which this mode of address has been employed in American journalism. The Editor of the Ohio Journal has often adopted it in such a manner as to make us suspect that his love of a joke had induced him to poke a little fun at the time-honoured method of expression. The "*we*" is intended to remind the reader that the article represents the opinions and experiences of a class, and when it is employed to express the feelings and thoughts of an individual, it is apt to strike the reader as more ridiculous than dignified; the use of such a mode of expression in a presidential address, leads the speaker into the quaintest of absurdities. Thus we read that "*we* applied to a general practitioner for a slight affection of the eyes" (it sounds as if an epidemic had overtaken the Illinois Society) with the result that "*our* eyes were nearly ruined." What would their clientèle have done if such wholesale loss of sight had overtaken the profession? And how could the practitioner ever forgive himself for having nearly blinded the whole dental community? The thing is the more absurd, because the speaker is actually speaking for the society, and when he says that *we* had a headache, or *we* were obliged to keep *our* beds, or *we* suffered from constipation, it seems as if one of the plagues of Egypt had occurred again, and that the dentists played the part of the Egyptians.

Dr. K. B. Davis' paper on "Prosthetic Dentistry" is an interesting one and lays stress on the necessity of artistic feeling in the

practitioner for the successful production of artificial dentures which shall enhance the personal appearance of the patient, as well as give him masticatory power. We do not agree with him in his objection to vulcanite, which has been often found a most useful and generally satisfactory base for artificial teeth. The discussion which followed contains some ingenious suggestions by Dr. Swain, of Chicago, for taking models with plaster of Paris in gutta percha trays, which have been moulded to the patient's mouth at the time. One point insisted on is a good one, viz., that "lowers," where the alveoli have been completely absorbed, should be no wider than the bone on which they rest, the muscles of the floor of the mouth being allowed free scope to play over the margin of the denture.

Dr. Garrett's paper on "Nervous Action" contains little that one would not find in any text books of Physiology, but the subject is somewhat popularised. In the discussion that followed, some members wandered from their subject into the realms of psychology, and it seems to us they rather got beyond their depth. This was also eminently the case in Dr. Louis Ottofy's paper on "Dental Spiritualism," but from the nature of the subject treated this was rather to be expected; we think some of the statements made ought not to go unchallenged as they appear to have been in the discussion that followed. Dr. Ottofy says "in this connection the well known fact may be mentioned that breeders can produce a certain colour or spot in an offspring by exposing to the view of the parents during coition an animal of that colour, or with that particular spot." We thought this theory had been exploded a long time ago, except, perhaps, in the minds of monthly nurses; but Dr. Ottofy may have authorities unknown to us on this side of the Atlantic. He also proves to his own satisfaction that man must have a "spiritual outline" from the fact that persons who have suffered amputation often complain of feeling pain in the toes or fingers of the amputated member, &c., &c. Far be it from us to say that man has not a spiritual nature, but the phenomena instanced are explained on such simple physiological grounds, viz., the irritation of the severed conducting nerve fibrils contained in the stump, that we are surprised at a scientific assembly quietly listening to such far-fetched hypotheses. Altogether this essay and the discussion thereon are more amusing than instructive; we cannot forbear quoting the concluding statement of one of the discussionists: "The male spermatozoa can

be elaborated only from masculine blood. It contains the germ of the future being, both spiritual and material. *The soul always comes from the male parent. The body is derived from the mother.*" (The italics are our own.) We feel inclined to say with Sambo, "How you know dat?" However, the moral of Dr. Ottofy's paper, which we should take to be: Be calm, gentle and truly sympathetic with your patent, is, if a little trite, still worthy of all commendation.

We would conclude our review by drawing the attention of our readers to a new remedy brought under the notice of the Society by Dr. A. W. Harlan, viz., Resorcin $C_6H_4(OH)_2$; colourless prismatic crystals, fusible at 110° , boiling at 270° , obtained by the action of potash on galbanum, assafoetida, &c., having somewhat the same therapeutic action as carbolic acid, but with the following advantages: it is more soluble in water, almost destitute of odour, less irritating, and its local action slight. Dr. Harlan states that crystals of resorcin applied to fungous growths of the pulp or gums will destroy them after one or two applications. Foul smelling discharges are rendered odourless by the application of five per cent. aqueous solution of resorcin. Ten per cent. has been useful in syringing sinuses in connection with necrosed bone, and weaker solutions have been very efficient as injections to pyorrhoea sockets. As a disinfectant for foul mouths and ulcers in mouths, it is a very pleasant and perfectly reliable drug. By placing vegetable and other infusions containing micrococci, &c., under cover glass, and watching the effect of treatment with solution of the drug, under the microscope it was seen that all movement speedily ceased and could not be revived.

On the whole the volume is full of information and also sadly disfigured by blemishes that seem to be the result of a want of a sound educational basis; a little "schooling" would save some of the authors from the unpardonable fault of not perceiving that they have really nothing to say that is not either utter nonsense or as old as their primæval forests. If an absence of knowledge of the work of others in days gone by leaves the mind free from prejudice, it often leaves it free from much rudimentary knowledge as well.

MINOR NOTICES AND CRITICAL ABSTRACTS.

M. Galippe on the Changes of the Teeth in locomotor ataxy.

AN account of the observations published by M. Demange, of Nancy, in 1882, on the loss of the teeth occurring with locomotor ataxy, suggested to the author of this paper certain doubts as to the special part played by this disease. The lesions observed in the trifacial nerve, and the functional disturbances that sometimes result from them, appeared rather to suggest alveolo-dental periostitis. This affection is produced by one or more varieties of parasites. It is also characterized by the loosening and falling out of the teeth, accompanied by a more or less abundant suppuration, and with the destruction of the alveolar border. These portions of the alveolus are often thrown off in fragments, some of which are of a considerable size, but repair takes place rapidly. It is not a constant phenomenon in locomotor ataxy, as will be shown further on.

These doubts were strengthened by the oral examination of one hundred cases of locomotor ataxy, taken from the clinics of MM. Debove, Raymond, Landouzy, Luys, and Charcot. The clinical signs that were observed appeared so akin to those of alveolar-dental periostitis, that it was impossible by a simple examination of the lesions produced, to establish a differential diagnosis.

The author and M. Malassez have proved the presence of parasites, which had invaded the tooth *via* the cementum in teeth attacked by alveolar-dental periostitis. It is plain that if the loss of the teeth occurring during locomotor ataxy, not in itself a constant occurrence, could be attributed exclusively to disturbances of nutrition, no parasites would be found; the cause of their loss would be much, if not quite the same as that observed in alveolo-dental periostitis. Although persons suffering from locomotor ataxy frequently do lose the teeth of the superior maxilla, it is extremely difficult to obtain specimens, as the teeth are either swallowed, or the patients neglect to draw their doctor's attention to their loss.

M. Galippe was therefore compelled to wait some time before he was able to verify his hypothesis, when he was eventually enabled by M. Feré to obtain some teeth which had dropped from the mouth of a person suffering with locomotor ataxy, the diagnosis of which was beyond all doubt.

The examination of these teeth conducted on the same principle as that already followed by M. Malassez and M. Galippe, on some that had been lost through alveolo-dentar periostitis, showed the same result. The teeth that had been lost spontaneously in locomotor ataxy were invaded by parasites.

A microscopical examination was not sufficient to differentiate either the lesions or the parasites from those observed in alveolo-dentar periostitis. It was only by the aid of cultivation that they could be identified or differentiated. The fact is none the less established, and shows that it is a total error to say that the teeth of patients suffering from locomotor ataxy fall out absolutely intact. The loss of a tooth cannot occur unless there are lesions of the cementum, since the ligamentous fibres, binding the tooth firmly to the maxilla, penetrate the cementum, and their destruction cannot take place without the intervention of serious pathological disturbances.

M. Galippe has not met with a single case of locomotor ataxy in which those peculiar alterations of the teeth have been present, that are mentioned by some few authors.

As has been previously pointed out in this paper, the repair of the lesions produced by the loss of the teeth does not always occur in locomotor ataxy. In alveolo-dentar periostitis, patients often lose fragments of the alveolar border, sometimes of a large size, these sequestra provoking an abundant suppuration. After their loss or removal, cicatrisation rapidly follows. As a general rule, the same occurs in locomotor ataxy, but the following case shows that it is not a constant sequence.

The patient, 53 years of age, was under the care of M. Debove, at Bicêtre, in 1883. He had lost his teeth in the ordinary way, without having suffered any pain for the space of five or six months. They loosened and fell out quite easily. Only one molar remained in the superior maxilla. The lower jaw was furnished with its full complement of teeth. Two openings were found, one on each side of the superior maxilla, communicating with the two sinuses; they were formed at the time of the loss of the teeth, and it is probable that the apices of the roots, either of the second bicuspid or of the first molar had penetrated the sinuses.

This double and free communication thus accidentally established between the buccal cavity and the maxillary sinuses, rendered the swallowing of liquid food, or of fluids of any description almost impossible, as they returned into the nasal fossa, much to

the patient's annoyance. He applied for and obtained a prosthetic apparatus from the public authorities. This piece was very heavy, and consisted of a metal plate resting on the teeth of the inferior maxilla. The lower part was only used to give attachment to springs, serving to hold up a plate furnished with teeth, against the palatine vault and the superior maxilla. This dental apparatus was intended to render mastication possible, and to prevent the passage of fluids into the maxillary sinuses.

The mastication of the patient's food was certainly restored by its aid, but no resistance was offered to the passage of liquids into the maxillary sinuses. Being obliged to leave off wearing it, the patient conceived the novel and practical idea of filling the maxillary sinuses with minced meat. By this means he was enabled to drink without the liquid returning through the nose. The meat, owing to the favourable conditions in which it was placed, was not long in decomposing and acquiring a most foetid odour. It was while in this state that M. le Dr. Debove asked M. Galippe to undertake the case.

The course of treatment was plain: all liquids had to be prevented from penetrating into the maxillary sinuses, and the chief difficulty consisted in the total disappearance of the alveolar border at this level. This was overcome by passing supplies of soft rubber into the maxillary sinuses, which while perfectly closing the open gaps, at the same time kept the plate firmly fixed *in situ*. The impression was taken in plaster, and to prevent any hardened pieces remaining in the sinuses, the liquid plaster in the tray was covered with a very thin sheet of gold beater's skin. Thanks to this proceeding, which succeeded admirably, a perfect model of the openings into the two maxillary sinuses was obtained. The patient wore this plate for more than a year, without leaving it off for any length of time; mastication and deglutition were perfectly restored. His death was caused by pulmonary disorders after a slight illness of three days' duration. His piece had been retained, and still adhered fairly well, when M. Galippe removed it in the theatre. M. Galippe publishes this case, because it shows that in locomotor ataxy the maxillary sinuses may be in permanent communication with the mouth, after the loss of the corresponding teeth. Foreign bodies therefore may be introduced and maintained in the sinuses without, however, exciting those inflammatory accidents so frequently remarked under other conditions.

A Case of Undoubted Longevity.

PROFESSOR HUMPHRY has recently communicated an interesting case of undoubted longevity to the *British Medical Journal* for June 12th. A Miss Joanna Hastings (sister to the founder of the British Medical Association), died recently at the advanced age of 104. She was about five feet six inches in height, and her figure was rather bent, cataract had developed in one eye and was commencing in the other. She retained six teeth, all in the lower jaw, two incisors, two canines and two bicuspid. As the rest of Professor Humphry's description is interesting, we quote it *verbatim* from the *British Medical Journal*.

"She had lived at Martley Rectory, in Worcestershire, at Worcester, and lately at Malvern. She was the first child of a family of fifteen. In earlier life, she was a spare person, but robust, with good health, good digestion, regular daily action of bowels, a good sleeper, rising at about seven, with good appetite, but a small eater, taking a glass of beer or cider for dinner, but no wine or spirit; meat at one meal, and tea, latterly coffee, for breakfast. She had acute and severe bronchitis at the end of 1877, again for two months in March, 1881; erysipelas of the head and pneumonia in September, 1881. She became subject to cough about sixty years ago, and had it for many winters. She dislocated her shoulder forty years ago, and injured her hip by a fall thirteen years ago, since which she had been lame. She told me that she had understood she was a remarkably small baby.

"Her father died at the age of 100 years and 6 months; her mother at 84, of cancer or ulceration of the stomach; her brothers (1) aged 13, of water on the brain; (2) aged 39, in India (of fever?); (3) aged 87; (4) aged 64, of paralysis; (5) Sir Charles Hastings, the founder of the British Medical Association, aged 72, of cancer of the stomach; (6) aged 74; (7) aged 78, of heart disease; her sisters (2 and 3) of brain-fever; (4 and 5) of consumption after measles; (6) of lung-disease after measles. It is probable, therefore, that these all died early, with suspicion of tubercular disease, which also arises in the case of the eldest brother; whereas she herself, the first-born of the family, out-lived all the others, and reached the age of 104.

"Her father was aged 26 at her birth, and her mother 22. There was no blood-relationship between them. The members of the family are said to have been gifted above the average; but

her father for many years suffered under mental depression, supposed to have been induced by many and various troubles.

"In October, 1885, a month after my visit to her, I heard from her niece that the cataract in the 'well eye' was advancing, and that, in connection apparently with her failing sight, another symptom appeared. 'She sees "sights," as she calls them—wide plains, fields, trees, houses, children. The sights are almost always pleasant; only twice have they been at all disagreeable. Once, some weeks ago, she saw women at the window making faces at her; and last night she saw horrid-looking men. She talks about them, and wishes much to know the cause.' I may mention, in relation to this symptom, that, not long ago, I was attending a gentleman, aged 78, who, in connection with severe photophobia, induced by overstraining his eyes, was terribly afflicted with these 'sights,' often of the most ugly and disagreeable nature. I am glad to say that he quite recovered, though the convalescence was slow.

"Dr. Pike writes to me, that Miss Hastings died on March 12th, 'from exhaustion,' the cold weather, I think, considerably hastening her death. About six weeks previously, she got an attack, serious, of pneumonia of the bases of both lungs. This passed through its ordinary course, and she threw off the disease wonderfully, the lung clearing up well, leaving only the state of chronic bronchitis, from which she had latterly suffered. Of course, her strength was much lowered by the attack, and she never thoroughly regained it. Some three weeks before death, her brain began to show evidence of her exhaustion, by its failing power, drowsiness, &c., although her mind, up to this time, had remained remarkably clear. Five days before her death she had a convulsive seizure; and, although this passed off, she gradually became less and less clear, taking less nourishment, and finally, as it were, slept away. Her marvellous power of vitality was shown by her so thoroughly throwing off such a severe pneumonia, which would have killed many a far younger woman.

"Miss Hastings was a typical instance of an aged person: of long-lived family, of strong constitution, all the organs being strong and well balanced; with good appetite and digestion, but a moderate or small eater, taking little alcohol, and not much meat; with regular action of bowels; of spare frame, robust, energetic, and of benevolent, happy disposition; of good ability, with usually good health; taking a fair amount of out-of-door

exercise ; having no illness till near the close of her life ; and, at a very advanced age, showing remarkable power of recovering from severe attacks—bronchitis, erysipelas, pneumonia,—thus resisting the savage onslaughts of disease, and yielding at last to the slow, steady, orderly advancing developmental processes by which the natural termination of life is brought about.”

A Case of Chloroform Poisoning ; Recovery.

By WILLIAM MARTIN, M.B., C.M., Stockton-on-Tees.

THE following case may be of interest : Between two and three o'clock on the morning of Sunday, March 7th, I was called to see a young man, aged twenty-six, who was said to be in a “fit.” The account given to me by his father was that he came home at 11.30 on Saturday night a little under the influence of liquor, but was able to speak and act correctly. The family retired to rest at twelve o'clock, but he remained in the sitting-room, saying that he was going to write a letter. Some time after this, his father called down to him, and, receiving no answer, he went down and found him sitting on a sofa with one leg under him, his body and head bent over to one side, almost black in the face, and “salivating.” Thinking he was in a fit, he laid him straight out on the floor in front of the fire, and came for me.

On my arrival I found him as stated, lying in front of the fire. He was breathing stertorously ; his pupils were widely dilated ; reflex action was completely abolished ; temperature low, and pulse slow, very weak, and irregular. His breath smelt very strongly of what I thought was chloral-hydrate, and, therefore, I asked his father if he ever used it, but he did not know. His father, who is conversant with the use of drugs, then smelt his breath, and immediately declared he must have taken a dose of methylated chloroform, a large quantity of which was in the house, and which his father was in the habit of using ; but he could not say how much had been taken out of the bottle.

As the case was serious, I called in the assistance of my principal, Dr. Dale, who at once recognised the strong smell of chloroform in his breath. The stomach-pump was applied ; and, after pumping in fully a pint of water, he began to retch ; and the tube being withdrawn, he vomited all the water. We could not be positive that there was a smell of chloroform in the vomited water, as the sour gastric smell was strong, and no doubt disguised

it, and also because the room was so full of the vapour from his breath that, unless it had been very marked, we could not have detected it. As he was unable to swallow, we pumped in some strong coffee. Galvanism was used, but with no apparent effect. The character of his breathing changed rapidly. He would breathe stertorously for half-an-hour; for the next half hour he would breathe as if in a deep sleep; then the stertorous breathing would come on again; and so on alternately all through the night and forenoon. Up to twelve noon, he continued in the same state; quite unconscious, the pupils widely dilated, no sensation in the conjunctiva, or anywhere else, and could not swallow. At this time, mustard poultices were put on the back of the neck and the calves of the legs, and his lips were wetted at intervals with brandy.

Shortly after this, slight twitchings of the facial muscles were observed, and he swallowed a drop or two of brandy placed on the back of his tongue. Next he responded to a pinch on the arm, and, in a little more time, he began to move his legs. When his mother spoke to him, he tried to open his eyes, but failed. Movements of his legs, and also of his head, now became frequent; and it was evident that these were caused by the mustard. On being spoken to, he mumbled a reply. Up to this time his breath smelt strongly of chloroform.

At 1.30 p.m. I left him, and did not see him again until 9.30 p.m., when I learned that he had been able to walk about the room a little, but was very dazed all the afternoon. He was lying on a sofa, sleeping heavily, and his breath still smelling strongly of chloroform. I spoke to him, and shook him gently, but did not rouse him. On Monday he was very sick and vomited often, and complained of severe pain in the stomach. On Tuesday the sickness, vomiting, and pain continued, but were not so severe. On Wednesday he only complained of weakness, and since then he has gradually recovered strength, and is now quite well.—*British Medical Journal.*

Chemists and their Duties.

Some of our readers may be interested by the perusal of the following letter to the *British Medical Journal* :—

SIR,—The question has been raised as to how far it is proper for dispensing chemists to issue preparations of drugs ostensibly for the treatment of particular diseases. Our remarks do not

apply to the small retail druggists who may resort to such means in order to maintain, it may be, a precarious existence. Of these we will assume that their poverty and not their will consents; but it is quite otherwise with their aristocratic brethren in the fashionable districts who nevertheless see no objection, apparently, to issuing to the public pills, potions, tablets or what-not, which are alleged to be "good for the liver, the stomach, or the nerves, &c." Yet such a proceeding is distinctly beyond their functions, and is as much to be discountenanced as is the sale of the more potent patent medicines. We notice this, because certain of them, who pride themselves upon observing the very letter of the unwritten law (if one may be permitted to make use of such an expression) daily transgress in this way as if they were blissfully ignorant of their dereliction of duty. It is exactly analogous to prescribing for a patient; and yet while (it is to be hoped) a really respectable druggist would shrink with virtuous horror from doing this, he very willingly dispenses prescriptions of his own, ready-made. No reasonable objection can be made to their selling most external applications, the benefit of which in the majority of cases is derived partly from the crude *massage* involved in "rubbing them in," and partly from what has been denominated the "faith-cure." Nor can much be urged against the propriety of their selling mild laxatives, uncrotonised castor oil or seidlitz powders, &c.; but it is quite otherwise when drugs possessed of specific and possibly powerful effects are so dispensed. It may be accepted as an axiom that any drug, which is capable of producing a well-marked physiological effect, ought only to be used under medical supervision; and if the preparations sold do not contain any such drug, their sale is an imposition on the public.

It would be well if a little of the severity of the laws affecting *pharmaciens* in France were applied in this country; but it is only fair to add that, before applying restrictions to druggists, justice would require that a beginning should be made with medical men who unnecessarily trespass on what should properly be the druggists' territory. To the medical profession, at any rate in towns, such a step would have the double advantage of raising it in public estimation while it would give weight to their demand for a better regulation of the retail sale of drugs and medicines.—I am yours, &c., A PRESCRIBING PHYSICIAN.

Cocaine as an Anæsthetic.

W. W., a healthy well-built man, an iron merchant, was admitted, under my care, into the Whitworth Hospital, Drumcondra, on June 7th, 1886. He had noticed a lump in his back six years previously; and, for the past five months, it had been perceptibly growing. On examination, an oval tumour was found measuring $3\frac{1}{2} \times 2\frac{1}{2}$ inches, its long axis coinciding with the posterior border of the right scapula; the skin over it was freely moveable.

The tumour was removed by Mr. Foy on June 8th. I injected cocaine into two spots on the long axis of the tumour; the spots were separated from each other by two inches, and from the extremities of the tumour by three-fourths of an inch. Each injection consisted of a grain of cocaine hydrochlorate (Howard), dissolved in ten minims of water. In ten minutes, Mr. Foy operated, making a longitudinal incision, passing through the punctures. The tumour was a fatty one, bound down by numerous fibrous adhesions, and took about fifteen minutes to remove. The patient complained of a little pain at the very centre of the incision, and also when the incision was being prolonged, at either end; but otherwise the operation was painless, and the patient lay very quiet only remarking that it seemed so strange to feel the knife cutting him and yet to have no pain. Four sutures were inserted, the only needle that caused the slightest pain being one which was passed through the centre of the incision. Six hours after the operation, there was no pain, but the patient complained of a peculiar numb feeling.

Had three injections been used, of two-thirds of a grain each, the operation would, in all probability, have been entirely painless.—E. MACDOWEL COSGRAVE, M.D.—*British Medical Journal*.

OBITUARY NOTICE.

SINCE our last issue a very promising ornament of the surgical world has quite suddenly succumbed to a sharp attack of erysipelas of the upper larynx. Mr. Francis Mason received his professional education at King's College, where he was distinguished by the special favour of the late Sir William Fergusson. He was for a time assistant surgeon at King's College Hospital, and surgeon and lecturer on anatomy at Westminster. Subsequently he joined

the staff of St. Thomas', both as lecturer and surgeon. In all departments of his private and professional career he secured the esteem and respect of all with whom he was brought into contact, and his early death (he was only forty-nine years of age) will prove a great loss to the profession at large.

APPOINTMENT.

JAMES SMITH TURNER, M.R.C.S., L.D.S., has been appointed Examiner for the Licentiatehip of Dental Surgery at the Royal College of Surgeons of England *vice* HENRY MOON, M.R.C.S., L.D.S. resigned.

ANNOTATIONS.

IN our issue of June we published a communication on Crown Bar and Bridge Work, which we incorrectly described as having been read by Dr. Walker at the annual meeting of the Midland Branch. The facts of the case are these: Dr. Walker accepted an invitation to give what may best be described as a demonstration or lecture upon this subject at the Midland Branch meeting. The communication was rendered more interesting by a very carefully prepared series of models to illustrate on an enlarged scale the methods of procedure described by Dr. Walker. No written paper was prepared, but the methods of operating were described, *viva voce*, and this description was taken down by a reporter who assured Dr. Walker that there was no need of revision. When this report reached us, we endeavoured to render it as intelligible as we could, but with only indifferent success; the reporter had concealed Dr. Walker's meaning too effectually, as we afterwards learnt. The author of the demonstration therefore requests us to say that he disowns the report as not representing what he said at the meeting, and we give this disclaimer the publicity that he justly asks at our hands.

THE following syllabus of lectures on Dental Anatomy and Surgery for Students of Medicine, has been forwarded us by Dr. Cunningham, of Cambridge, who is going to deliver them during the long vacation, which counts as a medical term:—

I. The anatomy and histology of the teeth.—The permanent

dentition, the temporary dentition, enamel, dentine, cementum, Nasmyth's membrane, dental pulp. II. The development of the teeth. III. The first dentition.—Normal eruption, abnormal eruption, nervous and other disorders arising during dentition, diseases and conditions peculiar to the temporary teeth, absorption or shedding, relationship of the developing permanent to temporary teeth at the time when the latter are all in position, undesirability of extracting temporary teeth, ulceration of the gums in connection with the fangs of the temporary teeth. IV. The second dentition.—Normal eruption, abnormal eruption, the necessity of early attention to the first molars, eruption of wisdom teeth, complications connected therewith, and their treatment, how to distinguish between temporary and permanent teeth, the teeth a test of age. V. Abnormalities in development of permanent teeth.—Retarded eruption, supernumerary teeth, abortive teeth, dilaceration, gemination, syphilitic and honeycombed teeth, irregularities in the development of the maxillæ, their varieties, and treatment. VI. Irregularity in the positions of the permanent teeth—Classification, causes of irregularity among the teeth of the present time, treatment by operative and mechanical means, symmetrical extraction. VII.—Injuries to the teeth.—Concussion, fracture, dislocation, replantation. VIII. Caries.—Its nature and various forms and the theories concerning it, preventive treatment, oral hygiene, curative treatment by excision and filling—materials and instruments employed. IX. The dental pulp.—Structure and function, pathological conditions and treatment, treatment when exposed by injury or disease, including preservation by capping, destruction by escharotics or complete extirpation. X. Diseases of the periodontal membrane.—Inflammation, suppuration, alveolar abscess, treatment by antiseptic or direct surgical interference. XI. Dental necrosis, exostosis, inostosis. Absorption of roots of permanent teeth, absorption of alveoli, chronic suppurative wasting of the alveoli, abrasion and erosion of the teeth. XII. Special forms of inflammation affecting the mucous membrane of the mouth.—Catarrhal, herpetic, mercurial, croupous, phlegmonous, suppurative, acute edematous dependent either on specific poisons, constitutional conditions or local irritation such as salivary calculus. XIII. Closure of jaws.—By cicatrices or by local influences dependent on the teeth or by reflex action arising in connection with the teeth. XIV. Morbid growths connected with the teeth.—Odontomes, dentigerous cysts, epulis, osseous

tumours, malignant growths, &c., their classification and treatment. XV. Diseases of the antrum. XVI. Nervous and muscular affections dependent upon dental irritation. XVII. The mechanical treatment of cleft palate, perforate palate, gun-shot wounds, &c. XVIII. Extraction of teeth.—Instruments employed and mode of use, accidents which may happen during extraction, alveolar hæmorrhage and treatment. XIX. Anæsthetics in dental operations.—Nitrous oxide, ether, chloroform, precautions to be observed when extracting teeth for a patient under the influence of an anæsthetic. Models, preparations, specimens and drawings will be shown to illustrate the course of lectures. The course will consist of twelve or more lectures to be delivered twice a week in the long vacation.

DR. CUNNINGHAM has prepared his scheme on a very large scale, of course rather with a view of indicating the scope of the subject than with the anticipation of covering such a wide area in the given time. We trust that this symptom of awakening energy on the part of Cambridge is an instalment of further reforms in the future. When are we going to have the pleasure of recording some dental appointments at the Addenbrooke? Dr. Cunningham appeals in our correspondence column for help in carrying out his lectures in the shape of contributions to the museum, and we have reason to believe that he starts with the advantage of the approval of Professor Humphry and Sir George Paget.

WE learn with pleasure that the students of the Dental Hospital of London, have started a lawn tennis club. Mr. S. J. Hutchinson has consented to act as president, and the committee have had the benefit of his advice and assistance in arranging details and starting the venture. The ground is at Lillie Bridge, and the present officers are as follows:—*President*, S. J. Hutchinson, M.R.C.S., L.D.S.; *Vice-President*, H. Lloyd Williams, M.R.C.S., L.D.S.; *Treasurer*, R. Wynne Rouw, L.D.S.; *Secretary*, A. Kendrick; *Captain*, W. Morley; *Committee*, E. N. Crowe, R. Ackland, H. W. Gilbeart and Geo. Seymour. The ground is easily accessible either by train from Charing Cross or Portland Road, or which is much preferable during very hot weather, by omnibus from Piccadilly Circus. Almost all the staff are members of the club, and the whole thing promises to be a thorough success. It

is an instructive fact that when the students set to work to organise sport of any kind, whether athletic or social, the prime movers are always the men who distinguish themselves in work as well ; we remember three house-surgeons being *hors de combat* from football casualties on the same day ! The milder sport of tennis is not likely however to incapacitate its devotees from work, while it is quite certain to clear their brains and produce that delightful equi-balance of faculties *mens sana in corpore sano*.

At the Annual Meeting of the Louisiana State Dental Society, a good case of the power of bichloride of mercury, as a disinfectant, was reported by Dr. L. C. Anderson. The case was one of chronic antral disease, and had resisted iodoform, boracic acid and carbolic acid for seven months ; it yielded however to two weeks daily treatment with bichloride of mercury (two grains to the ounce). The case had been unsuccessfully treated by a physician for three years. At the same meeting Dr. Oscar Salomon read a paper upon the relations of the physician to the dentist, in the course of which he quoted a case in which a swelling due to an abscess at the root of a tooth was *treated for a fortnight as mumps*, another in which dental exostosis was treated as an independent tumour for several months, the ignorance of the physician in charge of these cases, when combined with so much natural imbecility is, we hope a unique, or at any rate, a very rare spectacle in the transatlantic medical world, and we very much doubt whether the most careful training would save him a life of blunders ; still, Dr. Salomon argues his principal point very forcibly, namely, that all physicians and surgeons should be instructed in the surgery of the mouth.

On the other side of the question, Dr. Salomon has much to say that is well worth hearing, he urges with ability the loss of general esteem that is entailed on the profession by those of its body whose knowledge is confined to the teeth themselves, and who are unable to comprehend the more distant and obscure factors in pain and derangement. "The dentist of the future," says our author, "must have the same primary medical advantages as the physician, afterwards devoting his time and energy more especially to the dental branches." He points out how frequently diseased teeth produce disturbances in the allied organs, and how on the other hand functional derangements affect the teeth, and lastly, he eloquently urges his audience to read the journals, and

to take an active part in the work of associations, for it is by these united bodies working together that quackery will be eventually stamped out and scientific oral surgery will reign in its stead.

EVERY one will be pleased to hear that our indefatigable Vice-president, Mr. J. S. Turner, is the new examiner on the Dental Board of the College of Surgeons. After all Mr. Turner has done for the profession the highest honours should be his; but we could almost wish that the examinership involved less work, for the lion's share of work of all kinds has always fallen to Mr. Turner's willing hands, and no one, except, perhaps, the secretary of the Association knows this as well as the editor of this journal. Still it is right and fitting that one who has fought so long and persistently for the cause of education, should have an opportunity of becoming intimately acquainted with the results of the struggle, and we are quite sure that no candidate who is up to the mark need fear to go to Mr. Turner's table.

ALL sorts and conditions of men are outvying each other in offering tribute to Dr. Oliver Wendell Holmes. We do not remember for many a long day any more enthusiastic welcome afforded by our countrymen to a stranger within their gates. He has been courted and caressed by society of all sorts; the brightest and best of our generation in every field of intellectual enterprise have received him with open arms; he has made many new friendships and renewed a few old ones among the foremost men of his time, and has received his degree of doctor of common law in company with, perhaps, the greatest orator of his day, John Bright. It is a curious reflection that this universal recognition is accorded to what at one time was, in Dr. Holmes' case, the occupation of a leisure hour and not the serious business of life. It is not as a doctor or as a man of science, but as the author of the "Autocrat of the Breakfast Table," that Dr. Holmes has created such a warm place for himself in the affections of all the English-speaking race; it is a willing tribute to a delightful and pure genius, a writer whose books always leave a pleasant after-taste, a philosopher who has discovered the secret of never being dull, that all the world delights to honour; but the medical profession must be forgiven a little pardonable pride in having first claimed his devotion, medicine was his first love after all.

WE publish elsewhere an interesting letter from Mr. A. M. Stanley, kindly communicated to us by Mr. Quinby, in which some very interesting facts transpire respecting the manners and customs of African natives with regard to their teeth. We have always been accustomed to consider the immunity of these natives from caries to be traceable to some vague general healthiness, something they possess in common with dogs, a freedom from the banes and penalties of civilisation due to simpler diet, and lastly, we have suspected a good deal of mischief to pass unnoticed and unrecorded; but who ever suspected the wild man of brushing his teeth every night and after every meal? civilisation may well hide its face after such revelations.

THE distribution of prizes at Charing Cross Hospital took place on the 9th of last month. It is very gratifying to those who take a special interest in dental students to notice how they still bring honour and credit to their alma mater at Leicester Square, by winning laurels at their general hospitals. Thus we find G. O. Richards bracketed with a general student for the Pereira prize; A. E. Baker carries off the senior silver medal in anatomy; J. F. Colyer (one of our house-surgeons), captures the physiology silver medal; G. O. Richards figures again as practical surgery prizeman; while F. M. Ludbrook and J. F. Colyer, secure the dental surgery prizes between them.

A MEETING was held in the Board Room of the Royal Infirmary, on the 9th inst., to confer as to holding a week of clinics in Edinburgh, some time in October next. Sir J. Douglas McLagan in the chair. Professor Cheine introduced the subject; after expressions of opinion a committee was appointed to obtain the necessary information and report early in July. The Dental School and Hospital will be included in the scheme. There was a large attendance of the infirmary staff and representatives from the various hospitals and dispensaries in the city.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone all the necessary examinations, were admitted Licentiates in Dental Surgery at a meeting of the Board of Examiners on June 17th: Charles A. Barstow, James Street, Harrogate; Alfred E. Jones, Stamford Hill; Josiah Mansbridge, West Hampstead; Charles F. Rilott, Grange Park, Ealing;

George O. Whittaker, Blackley, Manchester ; Charles F. Wright, Edgware Road, W. ; Thomas H. G. Wrighton, Buckhurst Hill. Seven candidates referred.

WE publish elsewhere a programme of the first meeting of our new branch (the Southern Counties). The Executive wish to extend a cordial invitation to all members of the Association, and they will be much obliged to any gentlemen who will assist them by the exhibition of specimens and models, illustrating points of practice. The Hon. Secretary, J. Dennant, Esq., 1, Sillwood Road, Brighton, will be glad if any gentlemen who purpose attending the meeting, will forward their names to him before the 21st of this month.

WE regret to say that in all probability Mr. White, of Norwich, will be prevented by ill-health from taking the chair at the opening of the meeting of the Association in August. The duties of chairman will in that case devolve upon Sir John Tomes, as chairman of the Representative Board.

THE first inter-hospital lawn tennis match was played on Tuesday, the 29th of June, between St. Mary's and the London Dental Hospital, and resulted in a victory for the former.

OUR readers will be glad to hear that Sir William Gull is recovering from his recent indisposition, although unable to take his seat in the Medical Council as representative of the University of London ; he is no longer absolutely confined to his room.

THE following Bill has been introduced in the New York Legislature :—"Section 1. A dentist who shall administer chloroform or ether to any person, unless said dentist shall be a regularly graduated physician from some legally incorporated school of medicine and surgery, is guilty of a misdemeanor. Section 2 : This Act shall take effect on and after September 1st, 1886."

WE think our correspondent practitioner may rest satisfied with the response to his challenge about tooth-powders. We publish this month a very valuable contribution from F. C. S. on this subject.

WE have to correct with apology to our correspondents certain clerical blunders that crept into our last issue ; in the prescriptions in Mr. W. J. England's letter, 3ss was twice printed 3p. In the prescription in the letter signed "H.," Caryoph was printed Laryoph.

CORRESPONDENCE.

We do not hold ourselves responsible for the views expressed by our Correspondents.

Teeth of African Natives.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—I am sending you a copy of a letter from Mr. Henry M. Stanley, the celebrated African traveller, and in doing so only now, when the letter has been lying in my desk several years, I feel that I have been very remiss and that I owe an apology to the profession for so long withholding valuable independent testimony of the truth of statements which we are accustomed to receive as facts, but which we might find it difficult to prove. It is not, of course, so valuable for its deductions (which will not be so satisfactory to the experienced professional man as they seem to an unprofessional observer) as it is for the further proof it gives us of the importance of scrupulous cleanliness as a factor in the preservation of the teeth, I trust I shall be pardoned if I say that I do not think dental practitioners in this country make a sufficiently strong point of the fact that their art is only a means of assisting the patients to do for themselves what no dentist can do for them, viz., the exercise of efficient self-care and cleanliness of the mouth if they would preserve the teeth which nature has placed there for use and ornament.

We spend our time in the effort to repair damages which are to a very great extent the result of slovenliness, or one might say filthiness without overstating the fact, and from a feeling of false delicacy perhaps, we fail to impress upon the minds of our patients the truth that, not only has the mischief arisen from neglect, but that a very considerable part of our work, viz., the restorations of approximal surfaces of the teeth, will be—must be—practically thrown away if they, the patients, will not learn and conscientiously practise the virtue of cleanliness. I introduce my own letter to Mr. Stanley merely to show the occasion for his. Naturally, as I was writing to a non-professional man, I endeavoured to express my meaning in the most simple and concise form, that I might make myself clearly understood, and not take up too much of the valuable time of a man on whom I had no claim. Unfortunately the reply did not reach me until the work I refer to was prepared for the press, and I did not then, see how it could be introduced. Mr. Stanley treats my theories with some contempt ; but, what

is of much more importance, he makes it sufficiently evident that the uncivilized races of Africa not only have better teeth than the majority of our patients, who pride themselves on their civilization and refinement ; but that, and in his estimation, this is the only reason for the other fact, they take a great deal more care of them.

I remain, Dear Sir, yours truly,

H. C. QUINBY.

Liverpool, November 15th, 1882.

HENRY M. STANLEY, Esq.

DEAR SIR,—I believe there is no man living who is better able than yourself to confirm or refute a theory, held by scientific dentists at the present time, to the effect that civilization has so refined the human face that the maxillary, or jaw bones of highly civilized races are really much smaller, and consequently that the teeth must be smaller, than those of savage races ; or, if the teeth are not smaller their over-crowding and irregularity result, and extractions to make room are inevitable.

Also that centuries of luxury and good cookery, by depriving the teeth of their proper exercise, have weakened these organs, and so predisposed them to disease.

I am just now writing a book on "Practical Dentistry," and if you can give me a few lines over your name for insertion in this work, to say whether the natives of Central Africa, or those who have been least under the influences of civilization, have the lower part of the face much more largely developed than is the case with Europeans, and whether the teeth are larger, stronger, and more durable, except, of course, cases of self-mutilation, you will not only greatly oblige the writer, but the whole body of scientific dentists in America and Europe.

I remain, Dear Sir, yours truly,

H. C. QUINBY.

EXPEDITION INTERNATIONALE DU HAUT CONGO,
CONGO RIVER, W.C. AFRICA.

Jan. 29th, 1883.

SIR,—I am sorry that my time is so occupied with so much work, otherwise I should gladly have entered into the subject of your inquiry at greater length.

It is undoubtedly true that civilization has refined the face, but without disturbing the distinctive characteristics of either races, nations or tribes, which goes to prove that the basis of the face are not improved or modified. The refinement of the face does not always depend on the conformation of the bony frame of it, but on that higher, subtler creation, called intelligence or educative mind. This will appear obvious to you at once, for every day around you you may examine and draw your own conclusions from it.

Turning to the teeth, to which you have referred in your letter, I

consider that in general the teeth are either larger or smaller according to the size of the jaw, though there are instances—abnormal—of very large teeth in a small jaw.

In this Expedition there are representatives of no less than thirty African tribes collected from various parts, from East, West, and Central Africa, and in all I observe that the teeth depend on the size of the jaw. In the solid, square, massive jaw, I observe the teeth have the same characteristics, square, solid, massive, for the extreme prognathous jaw, pointed at the chin. I observe the teeth are longish, inclined to be uneven, irregular, prominent. In the delicately formed lower jaw of the Somali, I observe the teeth small, regular, and in no way inferior in beauty to those belonging to the most "refined poor" of Europe.

"Centuries of luxury" do not injure, or rather mal-form the teeth, nor do they deprive the teeth of their natural exercise, but rather increase the exercise by the quantity and quality of the meats they masticate. The ruin of teeth in Europe is to be attributed to the acids, the strong quality of medicines, the condiments, the "sweeties," so greatly consumed in youth, and the utter want of care, despite brushes and tooth powders. The laws and customs of society in Europe prevent that care of the teeth which they should have.

The Africans generally after each meal, with a brush formed in a minute frame or bush, proceed to brush away the adhesive particles of food, and three or four mouthfuls of water complete the operation. In the morning all hands may be seen at leisure time vigorously scrubbing away. In council even, frequently the brush is used instead of the European cigar. The Africans consume no acids nor condiments, and have no access to "sweeties," and as their stomachs are not so soon deranged they have no use for strong medicines, purely vegetable infusions supply them with all they need.

As the sculptors of Ancient Greece improved on nature, so the European dentists improve on the average of natural teeth, but it frequently happens that the dentist may see with envy natural teeth more beautiful than any his genius can form. I have a young African with me whose teeth only a dental Praxiteles or Phidias could equal perhaps, but never surpass in beauty, colour and perfection of setting, and he, unfortunately, cannot be said to be civilized.

That the African teeth are stronger and more durable can only be attributed, as I said before, to the greater care bestowed upon them.

Besides the care of their teeth and the long preservation of them, the Africans, savage as they may be, are able to teach Europeans several other lessons which, if diligently followed, would redound to their comfort.

I am, your obedient Servant,

H. C. QUINBY, Esq.

(Signed) HENRY M. STANLEY.

Dr. C. V. Galippe on the Physical and Chemical Characters of the Teeth.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Dr. Galippe's researches on the above subject reported in the Journal, are not less interesting than important. Many of his conclusions seem established, and much that he demonstrates is valuable and suggestive. There is, however, a highly questionable suggestion running through some of his reasonings to which I should like to call his attention, in order that he may give more fully than he has done the reasons for his belief. He refers with contempt to the opinion that as soon as the tooth is formed it ceases to be affected by the physiological changes that affect the rest of the organism—changes of nutrition or disease. Certainly this opinion must, nevertheless, be true as regards enamel, and hence the theories which he seems to adopt, of predisposition to caries from mal-nutrition of this tissue, must be false. Dr. Galippe evidently falls into the old error of considering the hard dental tissues as more closely homologous to bone than they really are. In bone, even in the densest bone, there exist vascular and cell elements for the carrying on of physiological action, but in enamel no such provision whatever exists.

Your obedient servant,

STUDENS.

Tooth Powder.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Notwithstanding the unquestioned efficacy of saponaceous tooth powders, a prejudice exists against them on account of the fact, —which ladies are not slow to discover,—that soap *alone* (sometimes thoughtlessly recommended), occasionally darkens the teeth; possibly because of unsaponified fatty acids which may exist in soaps, even together with free alkali (see Dr. Wright, *Cantor Lectures*, "Toilet Soaps," Journ. Soc. Arts), or be liberated in the oral acids.

This, however, cannot occur when it is intimately mixed with fine absorbent powders, and as nothing will take the place of soap in the mouth, the fact should restore confidence in its use.

Very vague ideas seem to prevail as to the proportion of soap required. For instance, a recent "Dental Materia Medica, &c." (third edition), specifies for an "ordinary dentifrice," the inappreciable amount of about three per cent., while for a "saponaceous dentifrice" itself, the formula given prescribes only a nineteenth part of soap; a quite insufficient quantity.

On the other hand, your correspondent's prescription on page 381, consisting of one half soap, will require an exceptionally fine and tasteless quality not to be intolerably soapy to a fastidious user. It is found that at least 20 per cent. (say 5ij in the ounce) of soap in a

powder is required to fully develop its detergent and mechanical properties, and more than 3ij in the ounce cannot be safely prescribed for retail dispensing with any certainty of producing an agreeable preparation, as the commercial pulverised soap varies somewhat, and is seldom as tasteless as it might be.

A too alkaline soap is often used (and occasionally adulterated) by the drug grinder for greater ease in powdering and for permanence. Long keeping in shop bottles sometimes develops an objectionable flavour. A wholesale maker can not only carefully select his soap, but in grinding may add such of the other ingredients of the powder as may facilitate the operation.

If a dentifrice consist too largely of fine and light dry powder, such as *precipitated chalk*, it is inconvenient and wasteful in use. Some is blown out and about every time the box containing it is opened or shut; and when the brush is charged and dipped into water to moisten the powder, much of it leaves the brush and remains in the water; or if instead the dry powder be conveyed direct to the mouth, it is choking and very unpleasant. This not unimportant property is somewhat modified by a large proportion of soap, but more perfectly controlled by a small quantity of fibrous material such as *orris root*, which is by no means only useful for its aroma and flavour. About 10 per cent. is sufficient, but as the delicate violet odour and not unpleasant bitterness of *orris* is a good disguise for soap, it may be harmlessly added up to 20 per cent. or more.

A very easily made, smooth and agreeable powder may consist of *soap*, *chalk*, and *orris* in equal weights; but the formula is better as

Fine dry neutral hard soap	...	...	three parts,
Precipitated chalk	...	...	four parts.
Fine dry orris root	...	...	one part.

which written as *drachms* makes up to one ounce.

Made with a good sample of soap, such a powder is almost tasteless, and even without extra flavouring not unpleasant. Scenting is often overdone. It is quite doubtful if the usual "antiseptics" in the small quantity tolerable in a dentifrice add anything to the germicide power of soap. When possible, individual taste should be consulted in prescribing flavours, as even the most popular ones are objectionable to certain idiosyncrasies. For instance, the generally appreciated and much used *wintergreen* (a valuable salicylic ether) is extremely obnoxious to some people. Perhaps the most universally approved and safest is *otto of rose*, but the real and not the *geranium* oil (which is bitter) must be used; and though only three drops to the ounce of powder should be required, it is nevertheless unfortunately expensive.

When a slightly rougher powder is demanded, some of the chalk may be replaced by fine cuttle fish bone. The following simple prescription, safe and effective, making up to one ounce, may be entrusted to any dispenser :—

Ry. Pulv. Saponis Alb.	}	...	...	...	āā. ʒiij.
Cretæ Precip.					
Pulv. Ossis. Sep.	}	...	...	...	āā. ʒi.
Pulv. Rad. Iridis					
Otto Rosæ	...	...	...	...	gtt. iij.
				ft. dentrifices.	Misce.
S.	"With a soft brush."				

Yours faithfully,

July 2nd, 1886.

F.C.S

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—There is a passage in Mr. Jamieson's letter in your last issue which calls for explanation, and I trust he will give it. He says: "I know of many dentists who make use of powdered pumice to compound with their powders. I am sorry to say their defence is—a preservative powder is, in every sense, detrimental to their own interests." I think Mr. Jamieson is bound to tell us what class of practitioners have expressed sentiments of this kind. Decay of the teeth involves suffering of a severe nature, and although not directly endangering life, is often enough to make life miserable. For a practitioner to deliberately prescribe a preparation with the object of injuring his patient, were a piece of villainy which, I believe, could not be practised by any individual having the least shred of humanity in his composition; and, surely, such a practice must be confined to the disreputable residuum which still disgraces our profession. There can be no doubt that the law would provide redress for the victims of such *mal praxis*, and it would be the duty of any honest man to put the law in action against any scoundrel who could be convicted of such an offence. I trust Mr. Jamieson will distinctly state and fully explain the scope of the serious charge which he has made.

I am, Sir, yours faithfully,

PER FAS NON NEFAS.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—In looking over the Journal this morning, I find by a little error in printing, you have made my formula for tooth powder to read *equal parts* of powdered soap and precipitated chalk. This would make a most unpleasant preparation, exceedingly disagreeable in using. It should have read—

Powdered Soap	...	...	1 ½ drachms.
Precipitated Chalk	...	...	1 ½ ozs.
Otto of Roses	...	...	6 drops.

Or, in other words, 1 drachm of powdered soap to 1 oz. of precipitated chalk. Perhaps you will kindly correct this in your next issue?

Very faithfully yours,

Pteris House, Tottenham, N.

W. DONSTON.

June 17th, 1886.

[We regret the printer's error and trust our correspondent, F.C.S., will notice the correction.—ED.]

The Burring Engine.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I think I can settle conclusively all further doubts that may exist as to who should be credited with the honour of being the first *inventor of the Burring Engine*. I am sufficiently patriotic and proud to state that the "honour to whom honour is due," falls to the name of an eminent Scotch dental surgeon, the late Mr. Henry A. Dewar, of Aberdeen.

To confirm my statement, I herewith have much pleasure in sending you a copy of his specification of his patent, dated 20th May, 1856, this includes drawing which shows that even the right angle attachment is fully depicted. Mr. Dewar does not show whether his engine is driven with or without a cord, but his ideas are fully explained, so as to show that it can be propelled from any convenient position. Hoping I have been of some service by showing that the originality of the Dental Burring Engine belongs to this country.

I remain, yours respectfully,

ALEXANDER JAMIESON, F.C.S.

[We have received the specification kindly forwarded to us by Mr. Jamieson, and it certainly demonstrates that in 1856, thirteen years before the earliest date mentioned by Dr. St. George Elliot, and fourteen years before Morrison's invention, Henry Dewar, a Scotch dentist, did patent an apparatus for conveying rotatory motion to a drill to be employed in dental surgery, at the same time there is no mention of a coil. On the other hand Naysmith's application of the principal was of a still earlier date. There can be no doubt that the burring engine did not spring from any single inventor's brain in its present form, it has grown and developed, and the honour of having invented its earliest progenitor will, no doubt, be variously awarded according, as one part or another of the engine is considered to be the essential element. If it be the conveying of the rotatory motion along a spiral spring then Naysmith was the first in the field, if it be the conveying of the motion *for dental operations* of drilling, &c., then we are not aware of anything so early as Mr. Dewar's patent, if on the other hand the essential is the fact of working the thing with the foot cord, &c., then Morrison is entitled to the glory. No doubt our correspondent, W. H. C. is right in suggesting the independent invention by two men as probable.—ED. J.B.D.A.]

Use of the Elevator for Upper Teeth.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—With reference to Mr. Cox's letter in your last month's number, I think it should be pointed out that use of the elevator in the case reported by Mr. Browning, was not the real cause of the accident.

To quote Mr. Browning's words, "The patient's head slid a little to the left side of the rest, necessitating the use of my left arm forcibly to keep the head in position, and thereby causing the withdrawal of the thumb and first finger from protecting the alveolar plates." Now, I think, this withdrawal of the left hand and not the use of the elevator occasioned the contretemps. Many very experienced and dexterous operators use the elevator occasionally for the upper jaw, although the practise is properly discountenanced in the dental schools, but surely no one ever before used the elevator for the upper jaw while holding the head with his left hand.

Yours faithfully,

ANOTHER HOSPITAL SURGEON.

An Appeal for Specimens.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR MR. EDITOR,—In the Anatomical and Pathological Museum situated in the Medical School of Cambridge University there exists a very small nucleus of a dental section in the contributions of the Surgeons of Addenbrooke's Hospital and of the local dental practitioners. I would earnestly appeal to your readers to assist as far as they can in extending this dental section by the contribution of models, preparations, specimens, or duplicates. By so doing we may be able to express in a very practical way our appreciation of the generous hospitality already extended to our profession by the University.

I shall be glad to see to the proper arrangement of any contributions, however small, confided to my care.

I am, &c.,

2, King's Parade, Cambridge.

GEO. CUNNINGHAM.

Dr. W. H. Waite.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Kindly allow me a brief space gratefully to acknowledge the numerous letters of sympathy and encouragement received from brethren in the profession.

Though, unfortunately withdrawn from the activity and emolument of dental practice, I yet hope to maintain a lively interest in the welfare of the Association for some time to come.

I am, yours very truly,

Liverpool, July 2nd, 1886.

W. H. WAITE.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 40, Leicester Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Members are reminded that their Subscriptions for the current year are now due and should be remitted to the Treasurer, at 40, Leicester Square.

According to the Byelaws of the Association, Members who are one year in arrears are not entitled to receive the Journal.

All Correspondence for the Editor, Books for Review, and Exchange Journals, should be addressed to 40, Leicester Square, London, W.C.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 8.

AUGUST 16, 1886.

VOL. VII.

Classical Education.

We publish elsewhere Mr. Turner's address to the students at the recent prize-giving at Leicester Square. The main question discussed by him requires more than a passing word of notice at our hands.

The education of the medical and dental student is just now engrossing a great deal of attention. A glance at the programme of the coming Annual Meeting will show what a prominent place this all-important subject occupies in the minds of our professional brethren. Out of seven promised papers, three are devoted to the consideration of the education question in some form, and at such a time Mr. Turner's remarks will be read with an intensified interest. He lays very great stress upon the desirability of a good classical foundation to the medical curriculum, and we cannot help thinking that the advantages of some such basis

have been greatly underrated of late. No man can ever hope to do his work properly in the broadest and noblest sense of the word, if he be not first a gentleman and then a surgeon.

There is always a terrible danger attending professional life, namely, that of falling into a groove, and against this danger nothing can guard so well as a classical education. Every day we see, both in daily life and in our periodical literature, the lamentable results of the absence of some such safeguard. A man with no intelligent pursuits to enliven the monotony of practice, becomes dull even as a practitioner; if there is only one thing he can do properly he will never do that one thing superlatively well; he may learn, with a certain amount of application, to build up cohesive gold fillings, but this is, after all, only a small part of dentistry. The intelligent diagnosis of obscure sources of pain, and the judicious modification of routine treatment under the infinite variety of cases that will come under his notice, require a fine appreciative sense, and even when the source of trouble is detected and the remedy applied, there remains the other and more subtle department of the healing art to practise, namely, the judicious appreciation of the special requirements and peculiarities of the individual under treatment. No two cases are alike, and no two patients are alike either, and it is the tact and judgment which we bring to bear upon each case, far more than the mere manipulative dexterity or book-knowledge at our command, which will raise us above the level of our fellow practitioners and make us really great in our calling. To pick out two from the many famous names of our day, we may instance Sir William Jenner and Sir Andrew Clark; these did not rise to what they are so much by pre-eminent knowledge of medicine, as by pre-eminent knowledge of human nature; for there were plenty of young

men who started in practice at the same time, and with apparently equal chances of success. Granted that they were uncommonly gifted in every branch of their profession, that which raised them head and shoulders above their compeers was, if we may use a homely expression, their superlative *tact*. It is the greatest gift that a doctor can possess to be able to "minister to a mind diseased." Ills that are not real but imaginary require more able handling than a broken limb or a cut head. Our mission is to *cure*, that is, to remove the mischief which afflicts our patient, and a little tact often goes further than a great deal of science in attaining this end.

To produce a race of surgeons who will view their *clientèle* as a number of different living individuals, and not as a series of opportunities for mechanical demonstrations, we require a wide and liberal education. By all means let our young men cultivate the allied sciences, but first let them study to become thoughtful gentlemen, cultured and educated students of men and women, let them have tastes and pursuits outside their daily work, and the result will be that this daily work will be better done and the profession more highly esteemed by outsiders. We think, with Mr. Turner, that the proper commencement of the education aiming at such results is a classical basis, and we hope his words will bring forth fruit. It cannot be too strongly impressed upon those who are responsible for the form that modern professional education is to take, that scholarship, like music, cricket, swimming, and many other things, must be begun early; it is impossible to graft such a bud upon a tree in riper years; the teaching that is to make a man a gentleman and a scholar must be begun in youth, and the time employed upon it will never be thrown away whatever the after career of the individual is destined to be. We are glad of the opportunity of endorsing Mr. Turner's straight-

forward expression of opinion, and we think he has done good service to the profession by ventilating it.

Dental Degeneracy and Civilisation.

THERE is no fault against which the scientific observer must be more perpetually on guard than too hasty generalisation. To withstand the temptation to construct theories from accumulated facts, requires uncommon force of character, and this virtue is perhaps rarely displayed to its fullest extent except by the highest order of intellect, as, for instance, in the case of the illustrious Darwin. During upwards of twenty years did Darwin go on quietly assembling and rigidly verifying facts before venturing to put forth his first great work on the Origin of Species; and even then, although full of incontrovertible truth, the work was free from the least suspicion of dogmatism, the facts being allowed to speak for themselves, and to suggest irresistible conclusions to the mind of the intellectual student. As a writer once put it in the columns of this Journal, a maxim in scientific investigation ought to be—take care of the facts, theories will take care of themselves. That is to say, accumulate facts, test and establish them, and when sufficient data are gathered, deduction will be almost spontaneously evolved.

These considerations are suggested by the interesting correspondence with the great explorer, Mr. Stanley, on the subject of the teeth of African natives in our July issue, for which we were indebted to the courtesy of Mr. H. C. Quinby. Mr. Stanley gives an interesting fact, and one which may be readily accepted, that Africans take assiduous care of their teeth, even brushing them and carefully removing every particle of food after each meal. From the limited observation of the dental development of the members of his expedition—probably not more than a few

score of natives of various tribes—Mr. Stanley then goes on to generalise a statement that the African teeth are more durable than the European only because of the greater care bestowed upon them. This statement cannot by any means be accepted. It is a demonstrated fact that in accordance with the well established law of evolution, comparative disuse of the organs of mastication has led, in civilised races, to decrease in size and strength of the whole apparatus—jaws, muscles, and teeth. Many observers have contributed to the establishment of this fact, among them the late Mr. Mummery. He found well formed jaws and good teeth in British burying places of the men of the stone age; a large proportion of ill-formed and crowded jaws with carious teeth—evidence of dental deterioration—in the Celts, and still further inferiority in the dental development of the later Roman colonists. The truth of these observations has been independently established lately by Professor Flower. He has shown as a result of examination and measurement of many thousands of skulls, that there is a gradual diminution in the size of jaws and teeth from the anthropoid apes, through the lower races of man to the European. Professor Flower has constructed a table of dental indices. In this table the gorilla stands at 50·8, the orang at 51·1, the Tasmanian 47·5, the African about 43·9; other savage races hold intermediate positions, whilst the ancient Egyptian and modern European generally stand at 40·5. That the prognathous jaws of the African and savage races afford ample room for all the teeth, is a fact of common observation.

It is never safe to trust one's eyes in scientific investigation; never justifiable when measurement or less fallible means than the unaided senses are available. Mr. Stanley's error arose obviously from insufficient and inaccurate

observation. It is just possible, although hardly probable that had he made accurate measurements of the jaws and teeth of every African member of his expedition, he would have discovered little or no difference between them and the average European ; but had he extended his experience far enough, guarding himself throughout against error, there can be no doubt he would, in the end, have found himself in accord with observers who, like those cited, have investigated the subject fully and with cautious accuracy.

Among the writers on the etiology of this disease, Mr. Sewill has especially dwelt upon the difficulty of generalising as to the remote causation of caries. He has pointed out that there are three main factors in the production of caries, but that the problem of their causation is extremely complex, and their interaction so involved, that it is difficult in any given case to differentiate them. The predisposing causes of caries are inherent defects in the structure of the tissues, crowding and irregularity of the teeth, and vitiation of the secretions of the mouth. These three causes, in every varying quantity, exist in the vast majority of civilised men. In barbaric races, on the other hand, these causes hardly exist, whilst, in such communities, the rapid destruction of members physically unfit, frees the tribes from any large body of chronic invalids and of individuals of inferior *physique* whose condition favours dental decay, and who, in civilised communities, are, by medical science and comfort, preserved alive in great numbers.

It is impossible to study the literature of this subject without recognising that the main problems are highly complex and difficult of solution, whilst our knowledge is lamentably deficient. A much greater mass of facts, so closely observed as to be beyond dispute, must be gathered before full enlightenment is possible. The problems are, however, far from insoluble, and the difficulties are small

compared to those that have been overcome in other departments of science. Their elucidation will need devotion and self-sacrifice. These only come from such genuine love of science as inspires the explorer to labour without hope of reward or thought of recompense beyond the satisfaction of establishing new truth and contributing something to the store of knowledge which goes to the service of humanity, to the mitigation of human suffering. It is fervently to be hoped that such earnest workers may be found among the members of our own profession not less than among the labourers in the field of pure science.

ASSOCIATION INTELLIGENCE.

The Annual General Meeting.

THE Annual General Meeting of the Association will be held in the Theatre of the Royal School of Mines, in Jermyn Street, London, W., and in the Dental Hospital of London, 40, Leicester Square, on Thursday, Friday and Saturday, August 19th, 20th and 21st, 1886.

The following will be the order of proceedings :—

THURSDAY, AUGUST 19th.

9 a.m. Meeting of Representative Board in the Library of the Royal School of Mines.

10.30 a.m. The Annual General Meeting for business (open to Members only) will assemble in the Theatre of the Royal School of Mines. At the termination of the Association business the Meeting will be open to Visitors. In the absence, from illness, of the President, Mr. RICHARD WHITE, Sir JOHN TOMES will be in the Chair and address the Association.

Sir EDWIN SAUNDERS, F.R.C.S., the President Elect, will then take the Chair and deliver his Address. Papers will then be read and discussed.

LIST OF PAPERS PROMISED.

"On Dental Education," by MORTON SMALE, Esq., M.R.C.S., L.D.S.Eng., L.S.A.

"On the Treatment of Alveolar Abscess," by W. GRAYSTON, Esq., L.D.S.I.

"A simple method of Photo-micrography suitable for the delineation of Dental and other tissues," by T. CHARTERS WHITE, Esq., M.R.C.S., L.D.S.Eng.

"Dentistry and its Relation to the State," by GEO. CUNNINGHAM, Esq., D.M.D.

"The conjoined diploma in Medicine and Surgery, and its acquirement by Dental Students," by S. J. HUTCHINSON, Esq., M.R.C.S., L.D.S.Eng.

"Compulsory attention to the teeth of School Children," 2nd paper, by W. M. FISHER, Esq., L.D.S.Eng.

"Public Appointments in relation to Dental Surgeons and the methods in which they are conferred," by W. G. GORDON JONES, Esq., L.D.S.I.

Casual Communications will be received after the papers should time permit.

1 p.m. Adjournment for Luncheon.

2.30 p.m. Reading and Discussion of Papers.

5.30 p.m. Adjournment.

9 p.m. Conversazione given by the Odontological Society in the Rooms of the Medical Society of London in Chandos Street, Cavendish Square, W.

FRIDAY, AUGUST 20th.

10 a.m. The Annual Meeting of the Dental Benevolent Fund in the Theatre of the Royal School of Mines.

11 a.m. Reading and Discussion of Papers continued.

1 p.m. Adjournment for Luncheon.

2.30 p.m. Demonstrations and Exhibition of Instruments, &c., in the Dental Hospital of London, 40, Leicester Square, also an Art Exhibition for the Benefit of the Dental Benevolent Fund.

LIST OF DEMONSTRATIONS PROMISED.

Gold Filling Non-cohesive, by J. ACKERY, Esq., M.R.C.S., L.D.S.Eng.

Gold Filling by the Herbst Method, by W. STORER BENNETT, Esq., F.R.C.S., L.R.C.P.Lond., L.D.S.Eng.

Gold Filling, by W. ST. GEORGE ELLIOTT, Esq., M.D., D.D.S.

Gold-Filling with Electric Mallet, by E. LATCHMORE Esq., L.D.S.Eng.

Gold-Filling with tin combined, by ROBERT H. WOODHOUSE, Esq., M.R.C.S., L.D.S.Eng.

Filling with Tin on the Herbst Method, by WALTER TOTHILL, Esq., L.D.S.Eng.

6.30 p.m. Annual Dinner of the Association to be held at The Criterion.

SATURDAY, AUGUST 21st.

10 a.m. Reading and Discussion of Papers continued if necessary.

4 p.m. to 7 p.m. A Garden Party, given by Sir EDWIN and Lady SAUNDERS, at Fairlawn, Wimbledon Common. Music, Vocal and Instrumental; Monologue by LAURENCE HOLLAND, Esq.

[Fairlawn, Wimbledon Common, is about six miles from Hyde Park, an easy drive, over Putney Bridge, and one mile beyond Putney Station. Or by train from Waterloo (Windsor Line) to Putney Station; trains every ten minutes from 3.40 till 5.50. A private omnibus to and from Fairlawn, will meet all trains arriving at Putney Station between 4 and 7 o'clock on August 21st.]

During the meeting an Exhibition of Works of Art will be held at Leicester Square in connection with the Benevolent Fund.

The above arrangements may have to be altered according to the time at the disposal of the Committee.

SPECIAL NOTICES.

On Wednesday, August 18th—the evening before the Meeting—Sir EDWIN and Lady SAUNDERS will be happy to receive Members and Ladies at 13a, George Street, Hanover Square, from 9.30 to 11.30. Music. No Cards will be issued, and this will be the only Invitation.

The same evening a Dinner will be given to the Representative Board, by Sir JOHN TOMES, its President.

The price of the Ticket for the Annual Dinner is One Guinea, which includes wines, and may be obtained of the Honorary Secretary.

All Members attending the Meeting are requested to sign their names in the Book provided for that purpose at the entrance to the Museum in Jermyn Street.

Subscribers to the Benevolent Fund are earnestly requested to attend the Annual Meeting.

The London Members will entertain the Provincial Members at Luncheon at the Criterion, on Thursday and Friday, from 1 to 2 p.m.

The Luncheon and Dinner Tickets can be obtained at the entrance to the Museum in Jermyn Street, on Thursday and Friday mornings, between 9.30 and 11.

NOTICE TO LONDON MEMBERS—Only those who have subscribed to the Guarantee Fund will be entitled to Luncheon Tickets.

Dental Instruments and Novelties in Dentistry will be shown by Messrs. Ash & Sons, The Dental Manufacturing Co., Messrs. Jamieson, and Mr. Daniel Collins. Mr. Gordon Jones will show a new Tripod Key and boot for administration of the gas.

NOTICE TO MEMBERS.—There is a Private Entrance to the Criterion, in Jermyn Street, which will be open to Members for the Luncheons and Dinners.

FREDERICK CANTON,

M.R.C.S., L.R.C.P.Lond., L.S.A., L.D.S.Eng.,
Honorary Secretary.

Special Business at the Annual General Meeting.

Mr. HENRY BLANDY, of Nottingham, will propose that Bye-law I. be altered as follows :

Line 2—After the word association, “ or Member or Associate of a Branch.”

Line 3—After the word character, “ that he practises dentistry solely.”

Line 8—After the word publication, “ of his professional qualification or.”

The Bye-law as it now stands :—

ELECTION OF MEMBERS.

“ 1. A person who is registered in the Dentists' Register shall be eligible for election as a Member of the Association, provided that he be of good character ; that he does not conduct his practice by means of the exhibition of Dental specimens, appliances or apparatus in an open shop, or in a window or in a show-case exposed to public inspection ; or by means of public advertisements, or circulars describing modes of practice, or patented or secret processes ; or by the publication of his scale of professional charges.”

The Bye-law with proposed alterations in italics :—

ELECTION OF MEMBERS.

“ 1. A person who is registered in the Dentists' Register shall be eligible for election as a Member of the Association, *or Member or Associate of a Branch*, provided that he be of good character ; *that he practises dentistry solely* ; that he does not conduct his practice by means of the exhibition of Dental specimens, appliances, or apparatus in an open shop, or in a window or in a show-case exposed to public inspection ; or by means of public advertisements, or circulars describing modes of practice, or *patented or secret processes* ; or by the publication *of his professional qualification or* of his scale of professional charges.”

Mr. HENRY BLANDY will propose :—

“ That the Representative Board do not elect persons who have been refused election by a Branch.”

Mr. HENRY BLANDY will propose :—

“ That gentlemen proposed for election have their names published in the British Dental Association Journal.”

Mr. HENRY BLANDY will also propose :—

“ That the name of a certain Member of the Association be excluded from the List of Members.”

Southern Counties Branch.

THE first meeting of this Branch was held at the Town Hall, Brighton, on Saturday the 24th July, 1886, Mr. Alderman Rymer, J.P., and L.D.S.Eng., presiding. A meeting of the Council was held at 12 o'clock; at 1.30 a luncheon was given by the President, at which about thirty guests were present. At 3 o'clock the General Meeting took place and was well attended. Amongst those present were the following gentlemen:—Alderman S. L. Rymer, J.P., the President; Councillor W. R. Wood, Brighton, Vice President; T. Charters White, Esq., London; James Parkinson, Esq., London; J. S. Turner, Esq., London; F. Canton, Esq., London; Thos. Gaddes, Esq., London; S. J. Hutchinson, Esq., London; A. Matthey, Esq., Croydon; J. Dennant, Esq., Brighton; J. H. Redman, Esq., Brighton; J. Cornelius-Wheeler, Esq., Southsea; Walter Saunders, Esq., Ramsgate; H. Colyer, Esq., Ryde; Thos. H. Elliott, Esq., Brighton; George Morgan, Esq., Brighton; J. T. Whatford, Esq., Brighton; J. H. Whatford, Esq., Eastbourne; Morgan Hughes, Esq., Croydon; Walter Harrison, Esq., Brighton; Geo. Henry, Esq., Hastings; W. H. Daish, Esq., Ryde; Sydney Johnson, Esq., Hove; T. W. C. Wonfor, Esq., Brighton; C. B. Stoner, Esq., Brighton; J. C. Foran, Esq., Eastbourne; M. Barton, Esq., Eastbourne; J. J. Bailey, Esq., Guildford; E. W. S. Cooksey, Esq., Worthing; James E. Welch, Esq., Brighton; W. R. Wood, jun., Esq., Brighton; Alverstone Cabell, Esq., Red Hill; Ewen M. Tod, Esq., Brighton; W. B. Bacon, Esq., Tunbridge Wells; F. J. Vanderpant, Esq., Kingston-on-Thames; J. N. Stoner, Esq., Brighton.

The Hon. Secretary, Mr. DENNANT, read the minutes of the inaugural meeting which brought the branch into existence in May last, and reported that since that day Council meetings had been held and members elected, a list of which would afterwards appear. With regard to the present meeting the Council hoped it would not be of a heavy character.

Many members who came from a distance would be glad to get the benefit of the sea breezes, and in the infant days of the Branch it was best to begin in a quiet and unostentatious manner. He thought the programme before them would be of interest, and that the opportunity of meeting together and making fresh acquaintances, would counterbalance any other deficiencies in the meeting.

With regard to the place of meeting next year, the Council felt it was important at present that the meetings should be held as much as possible in the centre of the district, and there was a sensible rule that they should not meet at the same place two years in succession. Looking for a central town for next year, they thought there was no place so good as Croydon. A reference to Bye Law 15 would show that the Council was elected for two years, and it was felt that it would be very much for the good of the Branch if the officers held their positions for that period. This led them, therefore, in connection with Croydon, especially to mention the name of Mr. Rymer as President-elect. He had very kindly consented, in the interests of the Association, to fill the office again if it were their wish, and it should not be forgotten that it was very much due to the influence of Mr. Rymer's good name that they had started so well, so it would be very greatly to the interest of the Branch to secure his services for the second year; and nothing, he was sure, would give them greater pleasure than to do honour to him in his own town of Croydon, where he was so widely and deservedly respected, and where he had been made an Alderman and J.P. of the Borough. In conclusion, he moved that Croydon be the place of meeting next year, and that Mr. Alderman Rymer be the President-elect.

Mr. Councillor W. R. Wood seconded, and the motion was put and carried amidst applause.

The President having thanked the meeting, the Hon. Treasurer (Dr. REDMAN) read the financial statement, which showed that after the preliminary expenses, including printing of bye-laws, &c., had been paid, he had a balance in hand of just over £6, chiefly owing to the generosity of the President.

The PRESIDENT next rose, amidst applause, to deliver his inaugural address. He said:—

GENTLEMEN,—Placed in the dignified position of first President of the Southern Counties Branch of the British Dental Association by your kind will, allow me to offer my grateful acknowledgments for so distinguished a favour—the more valued, if possible, from the fact that it is by an unanimous request that I find myself thus honoured. Being associated with so excellent and representative a council and officers, including such a Vice-president as the veteran Wood, I don't think that I ought to entertain any doubt as to the happy result of our inaugural and subsequent proceedings.

The Southern Branch, it must be owned, is later of birth than might have been expected—a fact to be traced to exceptional causes which need not be dwelt upon—suffice it to say that we now see our way clearly to the necessity of organisation in these parts, that good men and true have been found ready to take all initiatory steps, and that we are here assembled as a recognised and actual living branch of the parent Association, having been received, as I can personally testify, into that vigorous body with expressions of the utmost sympathy and cordiality. To refer individually to those who have locally contributed to this position might be regarded as invidious, but there is one name which cannot be passed over, because we owe our very being, as a branch, to his zealous action—I allude, of course, to our esteemed Hon. Secretary, Mr. Dennant, to whom our warmest thanks are so justly due.

Allow me now, gentlemen, to pronounce the word “Welcome” to all present, and to express an earnest hope that we, who are members, may long live in these fair counties of Hampshire, Kent, Surrey, and Sussex, continually knit together for the advancement of our common calling, a calling, happily, recognised by law and by society as a scientific profession of indispensable utility. If we do not commence operations with a very extended list of members, we have, at least, the satisfaction of knowing that the names are thoroughly representative, comprising some of the best known in the profession, and I am proud to be enabled to congratulate the branch that it has the distinguished honour of reckoning upon its earliest enrolment the name of John Tomes, whose residence is fortunately within our boundaries, thus at once shedding a lustre upon the Southern Branch. The services of John Tomes—scientific, political, and administrative—no less than his personal worth, are gratefully acknowledged by us as a profession; therefore it is but natural that we should rejoice upon learning that our own well understood recognition has extended beyond merely special limitation, and that Her Most Gracious Majesty, acting with characteristic discretion in the scanty distribution of royal honours at her disposal among professional men, has seen fit to confer a knighthood upon one so entirely worthy, and that now and from henceforth—and, as I hope, for many a long day to come—we shall hail that one as “Sir John Tomes.”

Commenting upon this notable event, the *British Medical Journal* of June 5th last, says: “Mr. John Tomes has, through-

out his successful career, held an unique position of scientific attainments and administrative capacity. To no man is dentistry in this country more indebted for the elevation of its professional *status*, nor has anyone taken a more important and useful part in promoting educational and legislative reforms, which have, of late years, established the dental profession on its present high platform. Mr. Tomes has for some years retired from practice. The honour now conferred upon him will dignify his retirement. It marks justly the great services which he has rendered."

These remarks are so much to the purpose that I have felt constrained to quote them. To Sir John himself the distinction is of small moment, yet as marking in the highest quarters the rising importance of the dental art, it is a matter of gratifying significance, especially as it is a second instance of such recognition by the Sovereign. Within a comparatively short time, as I need scarcely remind you, a similar honour was conferred upon a highly accomplished dental surgeon, whose services to Her Majesty, no less than to the profession at large, are well known. In Sir Edwin Saunders we recognise the munificent supporter of every good work in our midst—scientific, social, and charitable—public as well as private. I am quite sure that his heart is with us in the object we are here striving to accomplish, and it is worthy of remark that his residence at Wimbledon is also within the lines of our branch. Under the genial presidency of Sir Edwin Saunders, the British Dental Association will hold its annual meeting in the metropolis within a few weeks, an occasion we are looking forward to with pleasure as one of even more than usual interest.

I may mention in passing that I have purposely avoided dwelling upon the recent work of the Association, because this will be submitted to the members in detail at the London meeting, under proper authority, and, no doubt, the record will prove particularly valuable, especially in regard to the recent legislative action affecting the profession. Starting our branch then, thus favourably, and in contemplation of the important character of so many towns within the southern district, we have good reason to look forward for support to a large and influential constituency, to be locally banded together with the intention of assisting to carry out the aims of the British Dental Association, which aims may be summarized as meaning a steady and progressive action towards the attainment of sound professional *status* under the provisions of the Dentists Act. The aims are further directed towards bringing

men periodically together in social companionship and scientific conference, thus producing a personal sympathy otherwise unattainable. The general result of all proceedings is focussed in the excellent Journal of the Association, and brought home to each member. To guide us in proceeding with our new undertaking, we have the advantage of the experience of the parent Society, as well as of its already existing branches, for which we must feel indebted. At the same time we shall endeavour to develop new ideas towards the common end.

Independently of the duty of keeping a watchful eye upon the Dentists' Register, there are many points to engage attention. As, for instance, the best means of influencing fellow-practitioners who are deserving of consideration, and yet cannot be regarded as conducting practice with strict decorum, in some cases from quite mistaken notions; there are not a few such men, and it is worth some trouble to bring them into the fold. As to those minus consciences, and who possess no *amour propre*, it would, of course, be mere waste of time to endeavour to move them. Such pests must be allowed their time of discredit before their final disappearance. Then another subject which presents itself as a difficult problem for solution is, as to honourable ways and means of establishing a reputation affecting, especially, practitioners commencing life. In the course of his most able and interesting inaugural address at the Annual General Meeting of the British Dental Association, held at Cambridge last year, Mr. White, the esteemed president, pointedly referred to this subject, expatiating upon the difficulties experienced by the recently qualified dental surgeon, whose desire was to depend only upon a true professional basis, commencing life as he does under greater disadvantages than he would in any other profession.

Going on at length to demonstrate the embarrassments of a beginner, Mr. White says: "It is easy to imagine the feelings of a young dental surgeon who has been industrious in the pursuit of professional knowledge, and has passed the necessary examination for the dental license when he sees patients consulting advertising charlatans, whilst he for days together is waiting for those who do not come and brooding over his position, feeling that he cannot resort to those measures to make himself known which these unqualified persons revel in, and by means of which, in many instances, they accumulate considerable wealth."

Without pausing to dwell upon the past and present difficulties

of beginners, which are important primarily as presenting a topic for future consideration, it here becomes convenient to refer briefly to the question of demand and supply. In a word—is the profession overstocked? So far as I am able to judge from a careful survey of the situation, the answer should be in the negative. There appears to be ample work for all its legitimate members, although it may not, perhaps, be so equally divided as one would desire. The vacant places of those who, from time to time, retire from active practice, or drop out of the ranks from other causes, are filled up as they occur, and the increasing demands for the services of the dental surgeon are just about met by the number of men (now well qualified) who are being sent out into the field of practice under the system of legal authority which prevails. I believe there is plenty of scope for all these, and, moreover, it will be found presently that the information disseminated by such an institution as the British Dental Association, and its development, will have the effect of awakening people of all grades to the immense importance of paying that due attention to the teeth which is known to those who study the laws of health to be an essential element in regard to sound health and long life. None are more alive to this truth than medical men, who, speaking generally, are at one with us in desiring to see the advantages of recent legislation applied with all convenient speed towards securing to the public service only properly qualified, honourable men. "Rome was not built in a day," neither may so desirable a consummation be expected all at once, but we believe in it. In the meantime, no effort should be lost in providing for a more complete education of the public mind in this direction. A shaking of the dry bones of indifference is already distinctly apparent amongst the laity, and I hope that we may all live long enough to see throughout the British Dominions a general awakening to the fact that the teeth are organs of too much value to be neglected by the people, whether of "classes" or "masses." With these signs of the times before us, it may be prophesied that skilled aid is destined to be in such demand as to call for a largely increased body of practitioners for private as well as for hospital duty, so that we should see to it that our collegiate machinery shall be of sufficient capacity and strength to meet all prospective requirements.

But to return to the trials of our friends, the newly qualified. Mr. White, in his address, already quoted, lays considerable

emphasis upon the remedial effects likely to arise from a multiplication of dental hospitals and appointments in the provinces, and, to a certain extent, we may agree with his view of the case; but I am inclined to the opinion that the benefit would not be so distinct as he imagines, because, after all, the number of such institutions for a long time to come, will necessarily be of limited extent, and, indeed, much circumspection is needed in their establishment; otherwise they are capable of perversion; not that I desire for a moment to throw cold water upon the extension of these most useful charities, but I doubt whether the bulk of recently qualified men will find their portals sufficiently wide to permit of introduction to public favour in that way, although the appointments are, in themselves, worthy of ambition. The advantages of membership of the Association, as it appears to me, and as also referred to by Mr. White, are more likely to prove of real assistance towards the object sought to be attained, and the greater its extension in area, as well as in point of numbers, the greater will be the power of combined action—the benefit of which should be especially experienced by those who require a fraternal hand. It is a perfectly legitimate and commendable course for those connected with the Association to do all that in them lies to help one another. As matters stand we often find that our friends far away take care to inform patients who are removing to other localities as to whom in those “pastures new” they may safely confide in time of need, thus often saving them from the malpractice of advertisers, whose glaring announcements and presumption so frequently entrap the unwary, and before the poor dupes become alive to the fact that—

“The truest characters of ignorance,
Are vanity, and pride, and arrogance,
As blind men use to bear their noses higher
Than those that have their eyes and sight entire.”

It would, perhaps, be a convenient arrangement for each member of the Association to have ready at hand a list of members for easy reference. Withal, the young practitioner will have to depend mainly upon his own resources rather than upon others. The first requirement is a determined will to succeed and never to be absent, within reasonable hours, from the post of duty. Waiting may seem irksome, but the mind can always be employed profitably by the cultivated in the interim, and when once work

does come, and is thoroughly well done, it recommends itself and the operator meets his just reward. To the conscientious beginner, no less than the older hand, nothing can be more abhorred than any approach to vulgar touting ; at the same time, merely trusting to a name-plate on the door and to good luck, will prove disappointing. Fortunately there are means at disposal, and which membership with our Association will render the more easily available, for outside social intercourse in the several societies for the promotion of literature, art, and science, to be found in every centre of importance. Taking part in the meetings of these institutions is sure to prove an extremely congenial and profitable occupation, bringing the aspirant also into direct personal contact with the best intellect of the locality. If he be made of the right stuff, that fact will soon become apparent, and his light need not be hid under a bushel.

This question, as opened by Mr. White, struck me as sufficiently opportune to warrant special attention, and I have alluded to it in the expectation that its further consideration will lead to some practical good in the interests of those who are devoting a considerable portion of early life and energy to qualify themselves as professional men of high aspirations ; and it is only to such that we can look for the dignified maintenance and elevation of the honourable position already won through the unsparing exertions of those who have gone before. On the whole, the future outlook may be considered as encouraging, and there is every reason to believe that the material benefits, which the scientific practice of dental surgery is capable of affording, are becoming more and more appreciated by the public, and that the prospective additional demand for professional services will be responded to by a faculty of sufficient enterprise to meet all requirements. But it must be borne in mind, if there be any reality in the presumption advanced, that increased duties will certainly involve increased responsibilities on the part of dental surgeons, in order to keep well abreast of the time.

For the purposes of one speciality the degree of Licentiate in Dental Surgery is sufficient as a qualification to include all ordinary responsibilities, certainly so far as any legal requirement may be concerned. You are, no doubt, aware that in the early days of the dental reform movement of thirty years ago, two recommendations were placed before the profession in regard to qualification, one in favour of a connection with the existing

surgical examining boards, and the other of an entirely independent body, the aim in each recommendation being the same, namely, an examination equal in degree, but different in kind, to that required for the membership of the Royal College of Surgeons. After long controversy the former proposal prevailed, and was finally adopted with practical unanimity. What might have happened if the strictly independent principle had been adopted, it is impossible to say, and no advantage is now to be derived from mere conjecture; but the L.D.S. qualification does unquestionably indicate that its possessor is one skilled in his speciality. Whilst recognising this fact, and the comprehensive nature of the examination involved, there exists, nevertheless, a feeling in some quarters that the licentiate suffers by exclusion from certain privileges accorded to the member, as is particularly exemplified by the ineligibility of the qualified dentist pure and simple for the membership of the medical societies. Considering that dental surgery is allowed as a branch of the medical profession, such a condition of exclusiveness hardly seems fair; but to overcome all difficulties under the circumstances of the situation, my earnest advice to young men entering the profession is to go in for a medical qualification, in addition to that of the dental. The adoption of this method, I am persuaded, will never be regretted, although it involves some amount of extra time, labour, and expense. From expressions which have fallen from those best able to judge, it appears clear that, for the time being, we have enough work already in hand politically, in managing the machinery placed at our disposal so recently by the legislature, but if we may be permitted to indulge in hopes for the future, it must be admitted a general compliance with the policy of double qualification would ensure so complete a fusion as to leave nothing to be desired in that direction. Let it be clearly understood, nevertheless, that the L.D.S. degree must always stand as *the* qualification of the dentist.

Only the other day I had the pleasure of listening to an address from that eminent surgeon, Sir William MacCormac, the occasion being the distribution of prizes at the National Dental Hospital. Sir William strongly impressed upon the students then assembled the importance of acquiring the general as well as the special qualification, thus strengthening an opinion I have adopted for years past. The time may possibly arrive when the L.D.S. qualification will only be open to the general student of medicine,

and granted in like manner as the L.M.; but I will not longer detain you upon an idea *in nubibus*, although the subject is, to my mind, one of interest and worthy of leisurely thought, in reference to the outlook of another generation.

Admittedly rather late in taking the field, the Southern Branch appears to me to show such a determination on the part of its early members to work it thoroughly, that we may anticipate the delay of the past will be fully compensated by future activity and enterprise, so that we shall soon hope to reach the standard of the sister branches, and to become equally worthy offshoots of the parent stem. The constitution and bye-laws, adopted after due consideration, are well suited towards so desirable an end, and will in that light commend themselves to our southern constituency.

The area of the counties embraced within the district is large, and the Council, unaided, cannot hope to develop its unquestionable resources, but with the influential co-operation which they believe will be cheerfully accorded by friends individually in such places as Hastings, Eastbourne, Portsmouth, Bournemouth, Dover, the Isle of Wight, Southampton, the inland and metropolitan districts south of the Thames, and this great and majestic town of Brighton, in which we are so pleasantly met together to-day, we may surely confidently look forward to a large accession of members from many points of the compass. Thus with a liberal but just administration of affairs, no worthy brother will have occasion to experience isolation in his vocation and calling. He will, on the contrary, be enabled for the future to unite with his fellow practitioners in locally working to strengthen the position of the "British Dental Association" in its laudable objects and its beneficent aims.

During the delivery of his address, the President was frequently applauded, and at its close the members were most enthusiastic in their demonstrations.

The HON. SECRETARY said before they proceeded he knew they would wish to express their cordial and hearty thanks to the President for his admirable address. He spoke of the long years Alderman Rymer had been a force in the dental profession, and how eminently qualified he was to advise the younger men, as he had so well done that day. The Hon. Secretary's remarks were endorsed with hearty applause, and the President having thanked the meeting, the business of the day was proceeded with.

The following subjects were introduced : Mr. Morgan Hughes,

M.R.C.S. and L.D.S.Eng., Croydon, "On a case of Trismus caused by dental irritation," and the subject was further discussed by Messrs. Vanderpant, Gaddes, Charters, White, and Dr. W. Harrison.

The HON. SECRETARY in the unavoidable absence of Mr. Bromley, M.R.C.S. and L.D.S.Eng., Southampton, then read his paper "On Composite Fillings," and the following gentlemen took part in the discussion, Dr. Redman and Messrs. Dennant, Saunders and G. Henry.

Mr. J. H. WHATFORD, L.D.S.Eng., Eastbourne, introduced the subject of "Pyorrhoea Alveolaris," and after some discussion by Messrs. Hutchinson and Vandepant, Dr. Redman read a paper on "A case of Malignant Disease of the Jaw," which was discussed by Mr. Matthey, Mr. Smith Turner, and Mr. Dennant.

Mr. BACON, of Tunbridge Wells, submitted models of an interesting case of pivoting partial crowns upon central incisors, involving a good deal of ingenuity.

Dr. REDMAN, exhibited the models and apparatus in case of irregularity, caused by the undue prominence of central incisors.

Mr. HENRY desired, if not out of place, to avail of the presence of so many professional adepts, to mention a rather trying personal experience. During the last five or six years, he had lost as many teeth, without any of the usual visible causes, such as caries or injurious deposits, but, whenever he was overworked or worried and the system became congested, one or more apparently sound teeth and the adjacent gums sympathised and gradually assumed an inflamed condition, followed up with gum-boil, yet, strange to say, without death of the pulp. The attacks recurred at varying intervals, until he was forced to part with an apparently sound tooth, and in each case on splitting it open, the pulp was found to contain nodules of secondary dentine between its meshes, furnishing an interesting object under the microscope. His teeth were strong and firm set, making it the more serious to lose them in such a manner. He would much appreciate any practical expression of opinion under these trying circumstances.

At the close, the President thanked those gentlemen who had read papers, and brought forward cases of interest in the form of casual communications, and the Hon. Secretary said the question had been put by different members as to whether meetings could not be more frequently held than once a year. The Council had considered the matter, and as they would have to meet at least

three times in the year and their business was not likely to occupy much time, it would be a favourable opportunity to ask the members to come together in an informal manner to talk over topics of interest to them all. The first of such meetings would be held in all probability on the last Saturday in November, at 7 p.m. The Council would meet at 5.

THE DINNER.

In the evening a dinner was held at the Old Ship Hotel, and was attended by about fifty gentlemen, the members of the Branch being joined by several representatives of the medical profession. The President again occupied the chair, and Councillor W. R. Wood occupied the vice-chair. The President was supported at the high table by Mr. Turner (Vice-Chairman of the Representative Board of the British Dental Association), Mr. Edwards (President of the Medical and Chirurgical Society of Brighton), Dr. R. P. B. Taaffe (Medical Officer of Health for Brighton), Mr. Charters White (President of the Odontological Society of Great Britain), Mr. J. Parkinson (Treasurer of the British Dental Association), Dr. W. A. Hollis (Brighton), Mr. F. Canton (Hon. Secretary of the British Dental Association), Mr. Hutchinson (Lecturer on Dental Surgery at the London Dental Hospital), Mr. Salzmänn (Brighton), Mr. Baber (Brighton), Mr. Matthey (House Surgeon at the Croydon Hospital), and Mr. Gaddes (Dean of the National Dental Hospital). Amongst those also present were Dr. R. Black (Brighton), Mr. F. J. Paley (House Surgeon at the Sussex County Hospital), Mr. Elliott, Dr. J. H. Redman, Mr. Saunders (Ramsgate), Mr. Daish (Ryde), Mr. Foran (Eastbourne), Mr. Barton (Eastbourne), Mr. Bailey (Guildford), Mr. Welch (Brighton), Mr. Wonfer (Brighton), Mr. Morgan (House Surgeon at the Royal Alexandra Hospital for Sick Children, Brighton), Dr. Whittle, Mr. J. Dennant (Hon. Secretary), Mr. J. T. Whatford and Mr. J. H. Whatford (Eastbourne), Mr. Vanderpant (Kingston-on-Thames), Mr. F. M. Bacon (Tunbridge Wells), Mr. J. Henry (Hastings), Mr. Harrison (Brighton), Mr. C. B. Stoner (Brighton), Mr. W. R. Wood, jun. (Brighton), Mr. E. S. W. Cooksey (Worthing), Mr. J. N. Stoner (Brighton), Mr. Gabell (Redhill), Mr. Morgan Hughes (Croydon), and Mr. Tod (Brighton).

At the conclusion of the dinner, the CHAIRMAN said they had a short toast list to go through, but he would not detain them long, because some of their friends had to depart by train. Before proceeding, he would ask the Hon. Secretary to read letters of apology which had been received from gentlemen who were unable to attend.

The HON. SECRETARY said he thought he should best consult their wishes if he simply read the names of the gentlemen who had written, as all of them expressed regret at their inability to attend. Those who had written were the Mayor of Brighton (Alderman Reeves), Sir Edwin Saunders (President-elect of the British Dental Association), Sir John Tomes (President of the Representative Board of the British Dental Association), Dr. Withers Moore (President-elect of the British Medical Association), Mr. R. White (President of the British Dental Association), Mr. R. Wentworth White (President of the Eastern Counties Branch), Mr. George McAdam (President of the Western Counties Branch), Mr. W. S. Woodburn (President of the West of Scotland Branch), Mr. Brown-Mason (Exeter), Mr. A. J. Woodhouse (London), Mr. Morton Smale (Dean of the London Dental Hospital), Mr. Arthur Underwood (Editor of the Association Journal), Mr. C. H. Bromley (Southampton), Dr. Martin (Portsmouth), Dr. Rutter, Mr. E. Furner, Mr. Couling, and Mr. Blaker. Before resuming his seat, the Hon. Secretary said he was glad to see so many medical men present that evening.

The toasts of "The Queen," "The Prince and Princess of Wales and the Royal Family," having been duly honoured,

The PRESIDENT said he had a toast to propose which was of great importance. In England and Scotland they had several societies which were of great value to the profession. The oldest of these was the Odontological Society of Great Britain; he asked them to drink to that Society. Most of those present were well acquainted with the dental reform movement. Thirty years ago the dental profession was in a very unsatisfactory state; in fact, it could scarcely be called a profession. There were many isolated members who conducted practice with great success, and they were men of science, but they were not brought into contact with one another, and, through want of association, the public and the profession suffered. At that period a few men met together and conceived the idea of forming a society. A society was formed under the name of the Dentists' Society, and about the

same time another society was formed under the name of the Odontological Society. The two societies had the same object in view, namely, the elevation of the dental calling, but in the one case the College of Dentists thought that an entirely independent institution should be established, for education and examining purposes, and the Odontological Society, who had a larger number of the eminent men of the day with them than the College of Dentists, took the view that it would be better to follow the medical profession, and that the examinations should be at the Examining Boards of the College of Surgeons of England, Ireland, and Scotland. A controversy arose, and lasted for some years, and there were hard knocks on both sides; but, ultimately, the whole matter ended in a fusion. The Odontological Society had the most influential men on their side, although he was not certain that they had the best of the argument, and they succeeded in inducing the College of Surgeons to apply for power to grant examinations in dental surgery, and that power was obtained after much labour. That being so, the patriotic course of the College of Dentists was not to remain in existence as an opposing body, and the two bodies therefore united, and worked hard. They now had a high platform, and although they had had most able men as their Presidents, they had never had a better man than the present President, Mr. Charters White, whose name he coupled with the toast. Whether he would have been the right man in the old days of fighting, he did not know, but under the present system, as a man of science, the Society was highly honoured in having him as their President.

Mr. CHARTERS WHITE, who was received with applause, said he was proud to occupy the position he did that evening, as representative of the Odontological Society of Great Britain, and he begged to thank them for the honour they had done him in coupling his name with the toast. He was old enough in the profession to remember the isolation of its members when they were scattered as sheep having no shepherd; when each worked alone, and they knew each other only in reputation, but, in common with many others, they could now rejoice in organisations such as that they inaugurated that day, which brought them face to face with those they admired as practitioners and esteemed as friends. The Odontological Society, though distinct in aim and function from the British Dental Association, yet was one with it in forming that army of progress which had done so much in bringing

forward and advancing the status of their profession. While the Odontological Society did much to encourage the scientific aspect of the dental profession, it was the function of the British Dental Association to advance the general political welfare of it, and as such it deserved the warm support and influence of every legitimate practitioner. It had done much in the past for them, and this work had been fully recognised and appreciated by the Odontological Society, and it was with pleasure that he hoped next month, at the meeting in London, to hold out the warm hand of fellowship to every member who could attend. He would not take up the time of the meeting in saying a word about the progress the British Dental Association was making, for he was to be followed by those who had taken a harder part in the work of its organisation, and who were more capable than he was to speak of the good work it had done, and would in the future continue, but it was only proper that he, as President of that Society, should acknowledge how much they were indebted to that Association for the hard work and self-sacrificing spirit which, influencing the executive, had wrought so much for their general benefit. Proceeding, he said they wanted to hold out the hand of fellowship to young men who were honourably working up in the profession, and urged them not to be discouraged, and said, when waiting for patients when he was a young man, he worked away at the microscope. By doing this he learned much, it strengthened him to wait, and now he was reaping the reward of it. He spoke in condemnatory terms of advertising dentists.

Mr. HUMPHRY submitted "The British Dental Association" and "The Southern Counties Branch." He said he knew nothing of the Association, but he felt that that he had to propose was the dental profession as represented by this association. Comparing that association with other associations, such as the British Medical Association, he supposed it had two objects, scientific and social. They had that day held a meeting for scientific work, and he believed it was a most satisfactory one, and the Association, he thought, also cared for the promotion of its members, their respectability, and the position they took in society. He could remember that since he had been in Brighton, in what used to be a favoured and rather exclusive spot, there was a door with a plate on it bearing the words "Mr. —, dentist and cupper." But dentistry had now risen to a profession, and they had such members as Sir Edwin Saunders and Sir John Tomes to represent

them. This showed the progress which had been made, and he supposed that no profession had advanced with more rapidity than dentistry. Continuing, he said the object of the Association was to raise the standard of the profession, and the standard of the men in the profession in the eyes of the profession and in the eyes of the world. He looked upon the Association as a great gain, and the same might be said of the different branches. Through the various branches they were thrown more upon the Association, watched by one another, and they would be soon found out if they did not act as they should. In addition, it had been the means of affiliating the dental profession to the surgical profession, and the more it was affiliated to the surgical profession the better stand it would take. For his part, he would say to every man who was going to practise dentistry: Let him be a surgeon first and a dentist afterwards; for the more a man was acquainted with medicine and surgery the better dentist he would be.

Mr. TURNER (Vice-President of the Representative Board of the British Dental Association) rose to respond to the toast, and was loudly applauded. He said it was long since he had replied to the toast of the Association, as Mr. Canton, the Hon. Secretary, generally represented the Association. Remembering the many things he (the speaker) had said about it, it was almost impossible to find fresh ideas at a dental dinner of that kind. The only thing he could say first was that the Association had made a great stride that day. He thought it was a most admirable institution, and he hoped it would frequently meet, because it would furnish a legitimate excuse for coming from London to Brighton. After some further remarks, he said dentistry had now become a profession, even as medicine and surgery had become professions, under the auspices of an Act of Parliament, and it was after that Act of Parliament was secured that this Association sprang into existence. Amongst other things it had for an object the promotion of the spirit, and, in some instances, the letter of the Act of Parliament, and, as Mr. Humphry had said, it had for an object the promotion of social intercourse amongst its members. They had become a profession by Act of Parliament, but they did not wish to rest there, for an Act of Parliament would not make a profession, nor yet would it make professional men. Professional men must be made by scientific information and by culture, and an object of the Association was to promote dental

education. Their present curriculum as now established was nearly like that established by the Odontological Society and the Royal College of Surgeons something like twenty-two years ago. Thus they had to pass a course of surgery and medicine, but instead of duplicating their course as medical students had to do, they branched off at a certain part of their study, and went upon special lines for the remainder of their term. He said he dissented from Mr. Humphry's opinion that a man must be a surgeon first and a dentist afterwards, and believed that a man should be a dentist first and a surgeon afterwards. They endeavoured to offer to society the results of long and arduous study in the shape of an educated class of professional men, and it was to protect this course of education that the British Dental Association existed. He expressed a strong belief that in time they would get rid of the dishonourable class, who, without proper qualifications, now hold themselves forth to the public as dentists, and in conclusion, spoke strongly in favour of the full four years' curriculum.

The PRESIDENT also returned thanks on behalf of the Southern Counties Branch, and said all who belonged to it wanted to assist the parent Association. He would not boast of what they were going to do, but would rather meet them next year, and tell them what they had done.

Mr. HUTCHINSON proposed the next toast, that of "The Medical Profession." In the course of his remarks, he said he had for some years been associated with younger brethren who had been training for the profession of dentistry, and he had always urged that they should aim to be dentists first, and that if their minds and culture allowed them, they should be surgeons afterwards. This he believed to be the true path, and he would always advocate it as long as he had the opportunity. After remarking that the great aim of all those present was the alleviation of human suffering, he expressed pleasure at seeing so many medical gentlemen present, and concluded by calling upon Mr. Noble Edwards, the President of the Medical and Chirurgical Society of Brighton, and Dr. Taaffe, the Medical Officer of Health, to respond.

Mr. EDWARDS, who was cordially received, briefly replied. In the course of his remarks he spoke of the value of the Dental Association and its branches, and said if they went on as they were going at present the dental profession would rise to as high a position as the medical and surgical professions.

Dr. TAAFFE, in reply, referred to the good feeling existing between the medical and surgical professions and the dentists of Brighton, and said during his long term of practice he had never heard of any disagreements between them.

Mr. F. CANTON proposed "The Benevolent Fund of the British Dental Association," and said it was not supported in the way they might expect. Some objected to it on the grounds that it relieved others than those who subscribed to it, but if it only relieved those who subscribed, others would object on that score also. Those who did not wish to subscribe at all would always find fault, and he hoped all present would not only drink success to the institution, but give pecuniary aid.

Mr. J. DENNANT (Hon. Secretary), as Chairman of the Fund, replied, and said before this existed there were no means of investigating cases of distress which cropped up from time to time. Since it had been started they had worked in an unostentatious manner, and the funds had been applied with consideration and judgment. He said they not only helped widows into small ways of business, but undertook the education of several orphan children, and, before resuming his seat, appealed for subscriptions.

The toast of "The Visitors" was proposed by Dr. REDMAN, and responded to by Mr. PARKINSON (Treasurer of the British Dental Association), and this brought the toast list to a conclusion.

The following gentlemen have been duly elected as members of the Association and Southern Counties Branch, since the date of inauguration:—C. B. Stoner, L.D.S., F.P.S.Glas., D.D.S. Phil., 145, Western Road, Brighton; Walter Saunders, L.D.S.Irel., D.D.S. Phil., Memel House, Ramsgate; Duncan Wrightson Amore, L.D.S.Irel., 8, Warrior Square, St. Leonards-on-Sea; T. W. C. Wonfor, L.D.S.Eng., 99, Western Road, Brighton; J. T. Whatford, L.D.S.Irel., 79, Grand Parade, Brighton; Sydney Perrins Johnson, L.D.S.Irel., 65, St. John's Terrace, Hove, Brighton; Edward Moore, Member of the Odontological Society, 120, St. James's Road, Croydon; Robert E. Feltham, 7, Hora Villas, Hove, Brighton; J. N. Stoner, L.D.S.Irel., 110, Queen's Road, Brighton.

The following members of the British Dental Association have been elected into the branch:—S. Clifford Gibbons, L.D.S.Eng.,

61, Old Steine, Brighton ; Edward Thos. Cooksey, L.D.S.Eng.,
Ellerslie, Liverpool Gardens, Worthing ; Horace O. Colyer, Den-
bigh House, Ryde, S.W.

ORIGINAL COMMUNICATIONS.

1. On the Modus Operandi of Nitrous Oxide Gas as an Anæsthetic.
2. On the Nature of the so-called "Dentists' Leg."

BY GEORGE JOHNSON, M.D., F.R.S.,

EMERITUS PROFESSOR OF CLINICAL MEDICINE, CONSULTING PHYSICIAN TO
KING'S COLLEGE HOSPITAL.

A HIGHLY intelligent member of the dental profession with whom I was lately discussing the two somewhat disconnected subjects which I have placed at the head of this paper, assured me that the readers of the JOURNAL OF THE BRITISH DENTAL ASSOCIATION would be interested in the explanation of the above subjects which I gave him.

1. *The modus operandi of nitrous oxide gas as an anæsthetic.*—

The main phenomena attending the inhalation of the gas, with which every dentist must be familiar are the following:—generally during the first few seconds the pulse and the breathing are quickened under the influence of emotional excitement. In the next stage the breathing is slow and shallow, while the pulse is remarkably full and firm. Then after another brief period, the pulse suddenly becomes almost or even quite imperceptible, the features and the general surface of the body are livid, the pupils are widely dilated, and the muscles are rigidly contracted or convulsed, as in the first stage of an epileptic fit. The mouth-piece being removed and air re-admitted to the lungs, the skin quickly regains its normal colour, the pulse returns, and for a few seconds, until the blood has been thoroughly aerated, it resumes the full and throbbing character which it had during the second stage of the inhalation.

The explanation of these striking phenomena is not difficult. The inhaled nitrous oxide undergoes no chemical change, but it rapidly diffuses and replaces the oxygen in the lungs and in the blood. Black unoxxygenised blood passes into the left side of the heart and systemic arteries and excites the contraction of the muscular arterioles—those contractile tubes whose office it is, after the manner of stop-cocks, to regulate the blood-supply

to the capillaries and the tissues. The resistance thus offered to the passage of unaerated blood through the terminal systemic arterioles explains the temporary fulness and high tension of the radial pulse.

What then is the explanation of the subsequent feebleness and even cessation of the pulse? This is to be found in the condition of the *pulmonary* circulation. In the early stage of the inhalation, the blood, although not aerated, is allowed to pass freely through the lungs, but at a later stage the blood becoming more completely deoxydised and passing through the systemic capillaries without the usual interchange of materials which occurs between aerated blood and the tissues, returns to the right side of the heart and the lungs in so abnormal a condition as to excite the contraction of the resisting pulmonary arterioles. The resistance thus offered to the passage of the blood through the lungs lessens the blood supply to the left side of the heart and the systemic arteries, and explains on the one side the systemic arterial emptiness, with feebleness or even complete cessation of the pulse, and on the other the systemic venous fulness with lividity of the skin; while the epileptiform condition is explained by the sudden and extreme diminution of the blood supply to the brain. Epileptic convulsions invariably occur when, in a living animal, the arteries which supply the brain are all obstructed by ligature.

About ten years ago my friend, Mr. Hamilton Cartwright, assisted me to give a fatal dose of nitrous oxide to two rabbits; and opening the chest immediately after death, we found in both animals the right cavities of the heart and the systemic veins enormously distended, while the left side of the heart and the systemic arteries were nearly empty, the blood on both sides of the heart being equally black.

The explanation which I have here given is in strict accordance with modern physiological doctrines, and the subject was discussed at some length in a correspondence between the late Mr. Clover and myself, which was published in the *Lancet* (May and June, 1876).

That with ordinary care nitrous oxide anæsthesia is unattended with serious risk, is amply proved by the innumerable cases in which the administration of the gas has been safely and satisfactorily performed,* but on the other hand, it cannot be denied

* Mr. Clover, in one of his letters to the *Lancet*, stated that he had "put to sleep more than eleven thousand persons with the gas without one fatal result."

that when the inhalation has been pushed so far as to cause a complete absence of pulse with general lividity of the skin and more or less muscular convulsion, the great over-distention of the right cavities of the heart, which must inevitably be associated with the phenomena in question, is attended with some degree of danger. The danger is especially great in very fat people beyond middle age. In such subjects there is commonly an excessive growth of fat over the heart, and especially over the right cavities, whose muscular walls being enfeebled by the encroachment of adipose tissue, may be subjected to a paralysing over-distention by the incautious exhibition of nitrous oxide gas.

In the vast majority of cases, the pulmonary circulation is rapidly set free by the re-introduction of air into the lungs, and so the distention of the heart's right cavities is removed.

2. *The nature of the so-called "Dentists' Leg."*—The special symptoms of which members of the dental profession often complain, consist for the most part of various perverted sensations in one thigh. In addition to a feeling of muscular fatigue, there is often a sense of numbness in the skin, while others after standing for three or four hours have a painful feeling, resembling that produced by scalding water applied to the outer part of the thigh.

My attention was first directed to this subject by a dental surgeon, who consulted me on account of numbness of the thigh, which he feared might be the precursor of paralysis. I relieved him of his anxiety by giving him what I have no doubt is the true explanation of these perverted sensations. Our every-day experience teaches us that over-strain and fatigue may be direct causes of muscular pain; but in addition to this, the long continued rigid contraction of the muscles which are engaged in maintaining such a fixed position as the operating dentist often has to assume, must greatly impede the circulation, not only through the muscles, but also through the overlying integuments. As the alternate contraction and relaxation of the muscles, in walking for instance, assists and quickens the circulation, so the condition of fixed and rigid contraction impedes and retards the circulation by exerting a continuous pressure upon the blood-vessels, and especially upon the soft and easily compressed veins. The impeded circulation affects not only the muscles, but also the skin and the subcutaneous tissues, and the nerves which are distributed to the various tissues; and one result of a defective circulation through

the nerves is to cause various perverted sensations, such as numbness, a sensation of "pins and needles," or a painful feeling of heat and scalding. It is probable too that direct compression of the nerves by the firmly contracted muscles may have some influence in the production of the painful sensations which, in accordance with a well-known physiological law, are referred to the cutaneous terminations of the sensitive nerves. The obvious means of prevention and of cure consist in rest for the overstrained limb, or such a frequent change of position as is equivalent to a certain degree of rest. Standing in one position is notoriously more fatiguing than walking; the explanation being that while in standing the muscles are in a constant state of active contraction, the circulation through them being thus enfeebled and retarded, walking involves alternate contraction and relaxation of the muscles, with an invigorated and quickened circulation.

Mr. Dennant, of Brighton, in the course of a discussion on a paper by Mr. Oakley Coles, read at a meeting of the Odontological Society in June, 1884,* stated that he had obtained great relief from the use of the Lyons stool.

Some form of active exercise after the day's work and strain will surely be beneficial.

11, Savile Row.

On the Treatment of Pyorrhœa Alveolaris.†

By J. HENRY WHATFORD, Eastbourne.

MR. PRESIDENT AND GENTLEMEN,—In dealing with Pyorrhœa Alveolaris, a disease familiar to all of us, who, as dentists, are constantly being called upon to treat it, I will enter but little into its supposed origin or pathology, as my desire in now addressing you is to call your attention to its treatment, and especially to a mode of treatment suggested to me by my friend Dr. Philip Crampton, formerly of Steven's Hospital, Dublin, who originated and practised it for years with success. He himself suffered severely from the disease, and as no remedy was found to relieve him, he was driven to experiment upon himself, and after trial of

* Transactions of the Odontological Society of Great Britain, vol. xvi., no. 8, new series.

† Read at the Annual Meeting of the Southern Counties Branch.

various remedies, especially of caustics, he obtained, by use of sulphate of copper, complete cure in his own case, and by like use of it, cured many others similarly affected. For the last two and a-half years I have employed his mode of using sulphate of copper in some well marked cases of pyorrhœa alveolaris (two of them very unpromising), and in the great majority found it curative. I do not pretend to say that all cases are curable by this treatment—but this I do venture to say, that in the great majority of cases, not too far gone, it will be found curative, and in all cases more or less beneficial, and I trust I can, from two years unbiassed experience of its use, pronounce it to be the best treatment, so far as I know, yet suggested, and so much am I convinced of its remedial value, if properly carried out, that my only hesitation in bringing it before you is that its advocacy has not fallen into better hands than mine.

Pyorrhœa alveolaris in its early stage appears to be a form of local inflammation resulting in séparation of the margin of the gum from the necks of the teeth, and the formation of a pocket for the lodgement of foreign bodies, the gum at the same time changing its colour from the normal pale rose hue to a darker colour, becoming spongy in texture, swollen, readily bleeding on slight provocation, and the margin of the gum becoming rounder and averted from the necks of the teeth. This state, in more or less degree, may exist for months and perhaps years, with so little inconvenience as scarcely, if at all, to attract the attention of the patient. As the disease advances the gum assumes a more spongy and softened condition, more readily bleeding, with greater aversion from the teeth, a sense of fullness, throbbing, and gnawing irritation is complained of, and slight pressure on the gum surrounding the teeth causes a drop or more of thick, sometimes fetid, discharge to exude at the necks of the teeth. The teeth lose their proper sensibility, gradually become loose, and the denuded fangs become often coated with a tenacious layer of very hard greenish-brown tartar, and if the disease be allowed to progress without treatment, the alveoli become gradually absorbed, and the teeth drop out. This disease is found apparently in every variety of constitution, healthy or otherwise, indeed the general state of constitution seems to have little sympathy with the disease. In some families it seems hereditary, all members of it being more or less affected. In others only one member seems to suffer, and even at times local injury seems an exciting cause.

It may be interesting here to observe that in the advanced state of pyorrhœa alveolaris the gums assume a condition very analogous to that found in cases of scurvy, in which disease, according to the reports taken from the best text books, "the most marked morbid changes are the œdematous, spongy, and occasionally ulcerated gums, bluish-red in colour, with tendency to bleed, teeth becoming loose with purulent discharge between the gums and teeth." But what a marked difference is to be observed in the constitutional disturbance (often serious) attending scurvy, and the entire absence of such disturbance, as a rule, in the disease now before us! Scurvy can generally be traced (according to all authorities on the subject) to constitutional degradation, owing to want of proper nutriment, specially that of fresh vegetable food, combined with bodily hardship, but for pyorrhœa alveolaris we can assign no such causes, as many of those affected by it present the appearance of good general health. The cause of the disease, therefore, remains in great obscurity. Again, scurvy is generally readily curable by proper nutriment combined with constitutional treatment and cessation from hardship—the local treatment of the gums seeming quite secondary to the general treatment of the system—whereas pyorrhœa alveolaris, in many cases, seems readily curable by local treatment alone, being little, if at all, benefited by constitutional, so that the disease now before us seems entirely restricted to the mouth, and thus appears purely local, and curable as a rule, only by local treatment. As before stated, the cause of this disease seems very obscure, and authorities differ much about it. Some believe that it has its origin in the alveolo-dental membrane, others that the alveolar process is first affected, while others attribute it wholly to neglect in cleansing the teeth, and thus allowing tartar to accumulate between the necks of the teeth and the gum. But against this last theory Mr. Charles Tomes has related a case of a patient, aged 25 years, in which all remaining teeth were removed at the patient's urgent desire, and on many of the teeth distinctly affected there was not a trace of tartar. Various causes are suggested as originating and propagating the disease, and some discussion has taken place owing to microscopical investigation having discovered bacilli and other living organisms largely diffused throughout the pus formed in this disease. Dr. Arkövy (of Buda-Pesth) stated, when this subject was under discussion at a meeting of the International Medical Congress some few years back, that he had made careful microscopical examinations of the pus obtained from these cases,

and found that besides pus corpuscles, threads of *leptothrix buccalis* were always present in abundance, and he concluded the fungus was intimately connected with the origin of pyorrhœa alveolaris. Dr. Islai stated he had witnessed and repeated Dr. Arkövy's experiments, and could fully confirm his results, and other investigators have arrived at similar conclusions. There are gentlemen present who can probably tell us more about this, but, as I have said, my desire is not to draw any special attention to the origin or causes of the disease, but rather to its treatment. The late Dr. Riggs, whose name has been so intimately associated with the disease, said "that the obvious and only proper treatment was surgical," and that the use of acids was absolutely unnecessary. After such an authority as Dr. Riggs, I have some hesitation in giving my opinion freely. I certainly agree that the surgical operation needs all the care and skill he advocated, but I must confess I have not met with the success I could desire in the treatment of this disease by surgical means alone. I think I cannot better explain the method I employ than by giving the particulars of a case I have treated successfully.

Mrs. P., æt. 34, no family, somewhat anæmic in appearance, but with no strumous or adverse family history, and who has always enjoyed very good health.

About three years ago her attention was called to the fact that her upper and lower central incisors were becoming loose, and she consulted her dentist, who prescribed some remedy, which, for a time, eased the discomfort she was experiencing, but the gums became rapidly spongy, the teeth looser, causing considerable discomfort, and at times pain. Her gums were scarified, tannin, carbolic acid, acetic acid, and other remedies were tried without avail, and she gave up all idea of further treatment. About a year ago she consulted me as to the filling of a tooth, and noticing the condition of her teeth and gums I decided, with her consent, to try treating them with sulphate of copper. At the time of her visit the incisors of the upper and lower jaws, and the bicuspid teeth of the upper jaw were very loose, and the neighbouring gum deeply congested, tumid and thickened, and detached from the fangs, which were coated with hard tartar, more particularly those of the lower teeth, and on pressure a thick discharge appeared between the teeth and gums. For the first two or three days I contented myself with packing a little finely-powdered sulphate of copper between the

gums and the teeth by means of a piece of wood suitably shaped, and an improvement in comfort and in the appearance of the gums was manifested on the second day. The gums improved in colour and the sponginess having in a great measure disappeared, I was able to remove the tartar more readily and with less pain than was possible before using sulphate of copper. For seven successive days I packed the finely-powdered sulphate of copper under the gum and around the teeth in the manner described, and then after a week's interval, renewed the treatment for four more days. The discharge ceased after the seventh visit, but the upper teeth were soonest well, eight daily applications sufficed to cure them, the lower teeth gave me more trouble, and I attributed this to the difficulty I experienced in thoroughly applying the remedy, owing to the ready flow of saliva it appeared to stimulate. Eventually, however, these teeth became quite firm, and beyond one slight relapse, have given no further trouble. I saw this patient three weeks' ago, more than a year since the commencement of treatment, and was pleased to find the mouth in perfect health. In using sulphate of copper I have been much struck with the rapidity with which the gums answer the treatment; two or three applications cause such a contraction of spongy gum as to steady the teeth, and make the operation of removing the tartar comparatively easy; whereas formerly, owing to the sponginess of the gum and looseness of the teeth, I have had to extend the operation of removing the tartar over two, three, and sometimes four visits. I now, after two or three applications of sulphate of copper, am able to remove it at one, or at the outside two visits, and, as I have already stated, with considerably less pain. It is interesting to observe from day to day the reparation which takes place under the treatment, gum granulations of a healthy colour and firm texture growing up to embrace the teeth, not at the necks quite, as in a mouth unaffected by the disease, but covering the margin of the alveoli, and clinging closely to the teeth.

When cases have been of long standing it is necessary to apply the sulphate of copper at once for eight or ten successive days to insure immunity from relapse. I have at times ceased to use the caustic a day or two too soon, and a relapse has been the consequence, and as there is no risk in careful hands in freely using it, it is better even to overdo it a little to make sure of a good result. In early or slight cases fewer applications will suffice.

The caustic should be used as a saturated solution or in powder, which latter form I have found most convenient. Some little pain results from the use of the caustic, and this is greatly relieved by holding cold water in the mouth. It is well to prepare the patient for this irritation which arises at intervals during treatment, lessening gradually, eventually disappearing. The copper taste can be readily removed by a sip or two of bicarbonate of soda solution, and almost prevented provided the sip be taken while the powder is lying on the gum, and before it becomes mixed up in the mouth by an attempt to expectorate before the sip is taken. In applying sulphate of copper to the gum of teeth in the lower jaw, I have lately made use of the saliva ejector, and am enabled by its aid to do all I require for that sitting at one attempt without being much troubled with the saliva. I have ready at my hand a teaspoonful of a solution of bicarbonate of soda, which I introduce into the mouth as I withdraw the bulb of the ejector, telling the patient to quickly take a mouthful of water and shake it well about before expectorating. As sulphate of copper is considered to be poisonous, and is so classed by writers on toxicology, it will be well, as it is so freely used in the treatment under consideration, to enter somewhat into its medical properties. "Squire's Companion to the British Pharmacopœia" states that its medicinal properties are astringent, tonic and emetic, being the most valuable emetic in cases of narcotic poisoning.

Externally it is used as a styptic for bleeding surfaces, as a stimulant for ulcers, and an escharotic for warts. It is used as a lotion and as an injection to diminish excessive secretions from mucous membranes; 10 or 15 grains in 2 ounces of water forms a prompt emetic. It is stated that the fatal dose in man is not determined, but that half-an-ounce taken into the stomach would probably cause a fatal result. Having here reviewed its medicinal properties, we can form some opinion of the danger (if there be such) in using it so freely, as I advocate, in treating pyorrhœa alveolaris, remembering that the poisonous results before mentioned occur from its being taken into the stomach in some large quantity, very much greater than what is required at any one sitting for the treatment of this disease, for which, I should say, from 8 to 10 grains would be a liberal allowance—a quantity much less than that usually given as an emetic—and, as it is not swallowed, and has its properties neutralised in great measure by contact with the bicarbonate of

soda before it becomes mixed with the saliva and is then ejected, and the mouth immediately well rinsed, there can be no danger, in careful hands, of any unpleasant result.

I may mention that sulphate of copper is selected as the remedy in preference to other caustics for the following reasons:—Its action apparently involves less loss of tissue, while its curative power seems equal to any. In addition, it does not blacken the teeth as nitrate of silver does, nor act on their structure as acids do, nor spread over more surface than that intended, as chloride of zinc, caustic potash, and some others are liable to do. Its application, as a rule, causes little pain, and though ranked as a caustic its action as such is so limited that the gum freely granulates under its use, and therefore it can, in most cases, be applied daily till cure is apparent without checking these granulations as other caustics are liable to do. No detriment seems to result from its continued use, and in most cases a feeling of relief and comfort arises shortly after its application.

Dr. Crampton, to whom I am much indebted for invaluable hints in the use of this caustic, has had great experience of its use both in hospital and in private practice. Years ago, when he was at Steven's Hospital, Dublin, at a time when gum diseases were a kind of neutral ground between the physician and the dentist, neither making them their special study, he gave much attention to the subject, being himself a sufferer, and took notes of cases he treated, both there and in private practice, fully intending to publish them, but a severe domestic calamity caused him suddenly to retire from practice and from all medical associations, and the notes were lost. In conclusion, I beg again to draw your attention to a distinguishing feature of this treatment, and to which Dr. Crampton attaches much importance, namely, the daily application of the caustic to the diseased surface till cure appears complete, the success of the treatment seeming to depend less on the kind of caustic used than upon its application at short intervals. I trust that those who are acquainted with sulphate of copper in the treatment of gum diseases will tell us of their experience, and that those who have not yet used it will give it a fair trial, as I feel convinced that in it we have a very efficient remedy.

REPORTS OF SOCIETIES AND OTHER MEETINGS.

Annual Prize Giving at Leicester Square.

On the 24th of July last the annual distribution of prizes took place at the Dental Hospital of London. After the usual preliminaries the prizes were distributed by Mr. J. SMITH TURNER, M.R.C.S. L.D.S., who delivered the following address to the students and guests who were present :

LADIES AND GENTLEMEN,—I think that we may take it as a sign of the prevalence of a healthy tone in a school, when the annual distribution of prizes is looked forward to with interest and made a red letter day in the year's work by the pupils themselves. Such an occasion breaks into the ordinary routine of labour in a wholesome and cheerful manner, and when carried out as it is this evening, it enables teachers and students to meet on a common platform for mutual enjoyment and in an atmosphere different from the lecture room, where one is expected to talk and the rest to listen. It also enables the successful men to receive what is to them, in many instances, more gratifying than these prizes—the congratulations of their fellow students. It is a striking instance of the way in which the youth of this country can take defeat, that the applause which elsewhere is regulated by the word of command and sometimes given by the roll of the drum, is here furnished spontaneously and heartily by the less fortunate, though, perhaps, not less deserving competitors. It shows that they have the courage and generosity to recognise merit in others, and also that though defeated they are not vanquished, but that they have still self-reliance to try again.

To the successful prize-men I would say, do not rest satisfied. You have achieved a reputation which you must maintain, and if the bud of promise, which looks so fair to-night, be blighted in the future, this evening's proceedings will be remembered against you. I would also remind those who have been unsuccessful that their lives are before them and that the bracing discipline of competition need not be lost. The race is not always to the swift, nor the battle to the strong, and you may be assured that a steadfast and honest devotion to duty will sooner or later bring its reward.

Gentlemen, you are entering a profession which is yet in its infancy. Many of the men who have laid its foundations and who, by their devotion and generosity, have raised it to its present

position and given it, so far, a future, are yet amongst us, and it will be your privilege to reap where they have sown. I venture to prophesy that before you have finished your career, the public will have learned to recognise the fact that a dentist is an educated gentleman. That is, it will do so as far as the public ever can or will be able to appreciate the services of a professional man rendered in a professional manner, and it will rest with you, gentlemen, so to treat those who repose confidence in you, that you will in your daily practice, individually contribute to that desirable end.

From a recent discussion in the Medical Council, and from other signs that are patent to those who watch the course of events, it is evident that the question of medical education is far from settled, and if we look nearer home we may see that dental education is engaging the attention of some of the more active minds who are engaged in that pursuit amongst ourselves. I think that our standard of education is likely to be raised as time goes on, but while I cannot object to this, I could wish that the basis of it were, if not made wider, at least extended and deepened in one particular direction. I know that our preliminary examination before we can register as dental students, is the same as that required from the intending medical student, and so far it may be said we ought to be satisfied. But during the last few years there has been a very pronounced condemnation of classical education, and it has become fashionable to insist upon the natural sciences taking the place of the classics. Now I do not for one moment decry the utility of such teaching, but we must consider that even while we are educating youths in science, and seeking to make them scientific men, we do not seek to make them scientists—we seek to make them professional men. I believe that you may cram a student with all kinds of collateral sciences, and then cram him with all the lore and all the science of medicine and surgery, but that, unless he has some peculiar natural gifts, such as fall to the lot of only a few, he will still be far from the most ordinary standard of what a professional man ought to be. I believe, speaking generally, that culture and culture alone can make a professional man. I do not pretend here to define exactly what is meant by the true professional feeling. It can manifest itself in so many ways, it is like so many other things we know and feel, it is almost indefinable ; but speaking broadly, we may take it that a true professional man is one who will make the interest of

his client superior to his own, and when I say interest, I do not mean welfare alone, I mean that he will consider the comfort and the feelings, and if possible the desires, and even the convenience of his client first, and his own afterwards, and that when duty compels him to enforce certain opinions, he will do so as considerately and gently as possible.

So also will this professional spirit guide you in your behaviour towards your fellow practitioners. Never under its influence will you seek to compete with your professional brethren, or to follow a certain course because so and so does or does not do it, regardless of the higher consideration of right or wrong, or of the unwritten code of professional proprieties. Never will you treat a patient according to his or her whim or fancy in order to secure an unworthy advantage over a rival practitioner, and never will you condemn the practice or work of another for the sake of showing your own superiority, or without a knowledge of all the attendant circumstances which may have influenced him in his course of procedure.

Well, I do not think that any amount of science will ever produce men of this stamp. I believe that culture alone will do it, and I think that the basis of all culture should be a classical education. You may build up anything on a classical basis, but, still I speak generally, you cannot, if you allow the time of youth to fly past, build up a classical education upon a scientific one. It seems to me that whatever of the professional spirit is manifested, either in the church or the law, or in the medical profession, is due to classical education and culture. This alone can make a man habitually feel professionally, think professionally, and act professionally. It has frequently struck me as remarkable that those gentlemen who have been foremost in condemning the classics and in lauding science, have themselves had a very fair share of the preliminary training which they so roundly decry, and I question if ever they would have been the accurate observers they are, or if ever they would have been able to place their observations so clearly before the public or the scientific world if they had been less favoured in this respect. Perhaps you may say that it is this fact which makes their opinion valuable and enables them to speak with so much authority. From my point of view it is quite the contrary. These gentlemen have never felt the want of it, and like many others who have always had their wants supplied almost before they arise, they know not what hunger is.

For myself, I confess to a very meagre smattering of such an education as that which I am now advocating ; hence I have felt the hunger for it and I have felt the want of it. And it is this want that has emboldened me, and indeed almost compelled me to speak out so urgently on the subject. The methods of teaching the classics have been wonderfully improved, and will no doubt be still further improved, and I do hope for the sake of our profession, and for the sake of the public, and for the sake of the next generation of dentists, that the classics will occupy more and more a prominent position in our preliminary examination, and for my own part, I should not be sorry to see them have a place in the final, although that perhaps is all too much to hope for. It has become a trueism to say, that the strict pursuit of a specialty tends to narrow the mind of the practitioner. Perhaps it would be more correct to say that it narrows his mental habit, and that the specialist looks at professional matters from the narrow standpoint of the branch which he practices. It would be hard to find any branch of the healing art which can present anything like the cogent reasons for being studied and taught as a specialty that dentistry can do, and yet there is not another which is so well calculated to produce this baneful, narrow, mental habit. We too often start with the idea that the ability to fill a tooth properly is the very acme of human ingenuity, and in many instances we seem never to get beyond it, and indeed without a liberal education we are never likely to get beyond it. I know that to practise the art of stopping teeth is at all times a great exercise of ingenuity and patience, demands a greater expenditure of time and labour in acquiring the requisite skill to follow it properly, than is required by many of the highly paid operations in the higher walks of surgery, but, that it is an art requiring great intellectual powers I cannot for a moment conceive. I consider that after a few preliminary difficulties common to almost each case have been overcome, the rest is a matter of time and endurance on the part of the patient and the operator. It therefore appears more than necessary that culture of some kind should be called in to check the narrowing influence of such circumstances, and I would remind those who have not the advantages of a classical training, that in the storehouse of our own standard literature, there is an abundance of material on which the mind may feed and the tastes be cultivated.

But, gentlemen, although the nature of our employment, seem-

ingly, lends itself but too readily to this stunted intellectual growth, I would not have you imagine for a moment that such a condition is at all justifiable or necessary. Both facts and example proclaim the opposite, and in this same path of science which we are called upon to tread, the very highest scientific honours have been gathered, and quite recently we were all rejoiced to hear that high social honour had been for a second time awarded to one of our leading men, mainly on the grounds of the scientific work he had accomplished in the sphere of our profession. There are ample fields, especially our own, for the exercise of the intellectual faculties, which are far from being exhausted, and which are even now engaging the attention of some of the best scientific minds. Further, there is much in our daily practice which is obscure, and there are continually occurring cases in which both diagnosis and treatment call for the application of the closest observing and reasoning powers. It is in the continual recognition of such facts that we may expect to find a check to the prevalent craze for acrobatic dentistry, which so frequently attempts, for the sake of notoriety, things which barely come within the scope of scientific discussion, and which is daily seeking to outdo itself by some more extravagant vulgarity.

The practice of dentistry is manifold in its requirements and far-reaching in its benefits, and so, perhaps, is more assailable by charlatans and by critics than many professions of a more particular nature, and its beneficence has recently been attacked from a most unexpected quarter and in a most extraordinary manner. A medical author of considerable public repute has asserted that we are to blame for preserving organs to a later period of life than necessary, and also that in replacing the lost organs of mastication, and so enabling people to eat what is not good for them, and more than is good for them, we either originate or perpetuate certain forms of disease. After the admirable reply this assertion called forth from Mr. Hutchinson, at our Cambridge Congress, I would not have referred to this to-night were it not for the fact that the writer of of the strange allegation seems to have secured a much wider audience than our defender has done.

It seems hard to believe that such things can be said seriously, and when I read the statement I set it down to a manifestation of that mania for paradoxical expression which characterises some of the utterances of quasi-scientists and some would-be eccentric preachers, but which one hardly expects to find in a treatise de-

voted to the health of the public. I have hitherto been led to understand that the drinking usages were to blame for many of the inroads upon our health which have accompanied our so-called civilisation, but I never heard of the wildest enthusiast for our regeneration seeking to limit our swallowing capacity, and yet I think that it would be as easy to arrange an instrument which would make drinking as uncomfortable for the excessive drinker, as mastication with edentulous gums would be for the excessive eater. I would, however, suggest to the learned author of the treatise in question, that the dentist's forceps can soon reduce the mouth of such as may require treatment to the dilapidated condition he thinks so beneficial, but I doubt not that the same skill would soon be called into requisition to replace the organs which might have been removed on such profound scientific principles—for those who are so unfortunate as to lose their teeth, even at an advanced age, soon find out that mastication is but one of the many purposes which our teeth have to perform in our physical economy.

This subject of artificial teeth is a matter which affects not only the future of dentistry, but the comfort of the public to a very large extent. Hitherto our best efforts have failed to abolish the use of the forceps, and what with our own failures, and the fatal neglect of the public, I see no near prospect of any improvement in this respect. It is therefore incumbent upon us, while we extend and direct education in the conservative branch of our calling, to think what we have to offer when the hour of failure has struck. Compensating dentistry is too apt to be neglected, and yet too valuable to be neglected without injury to ourselves and to the public. The tendency at present seems to be to rear a set of practitioners, who are more proficient in the former branch of our calling than in the latter, and though it is quite possible to rear a class of workmen who will as intelligent mechanicians supply all our wants, I much fear that the rising dentists are, as a class, not quite qualified to continue to instruct such another body of skilled mechanics as that which we at present possess, and so we may expect these men to deteriorate in skill according as the demands made upon them become more feeble from lack of the knowledge of what ought to be. As a remedy for this perspective evil I would warn those who are entering the profession not to neglect the workroom art of their curriculum. An apprenticeship of any kind is no guarantee of

efficiency, but a conscientious fulfilment of its requirements may go far to prevent that decay in our art which I apprehend, and a little additional study might serve to correct it entirely. It has also occurred to me that as the claims of the British Dental Association become better understood, and it receives a fuller degree of that professional support which it deserves, that it might be able to establish some method of competition amongst the dental mechanicians, and by awarding prizes for the best work produced and for any workroom novelty, thereby help to provide the practitioner with a race of workroom assistants, who would help to maintain compensating dentistry at its present stage, and even to advance it to a higher state of excellence.

Ladies and gentlemen, I shall not detain you longer. Those who belong to the profession know that there are many subjects which must be left out of an address such as this, and those of the public who have honoured us with their presence to-night, will see what quality of gentlemen we are preparing as their future dentists, and also that we are not allowing our profession to develop in a hap-hazard way, but that while we cannot offer to them the specious promises of the advertising charlatan, we endeavour by forethought and care to do all that art and science can do for the amelioration of pain and the promotion of comfort.

HOSPITAL REPORTS AND CASES IN PRACTICE.

Successful Improvised Splints.

BY WALTER H. COFFIN, D.D.S.

ONE evening last June a gentleman was brought to us straight from the Polo ground, where it was reported that he had "broken both his jaws," a conclusion which his deplorable appearance most justified. In addition to face and lip wounds, the inferior central incisors with the bone containing them were completely detached from the lower jaw, displaced forwards, but hanging by the gum, which was still continuous externally. The superior incisors were also loosened, the centrals protruding nearly half their length from the sockets, but none had come entirely out.

The prospect of conservative treatment was not simplified by the patient stating (in writing, as speech was painful) that he was standing for Parliament and wished to address his supporters in a day or two. He said he "did not care how he looked if he

could be fixed up to speak." My brother, Mr. Harold Coffin, in this forlorn hope, undertook to make and adjust at once improvised splints on a method sufficiently novel and successful to be described. Impressions were taken in soft "composition" of the lower and upper jaws after the teeth had been carefully replaced. Directly into these impressions, melted "Spence's metal" was cast, giving in a few minutes hard metallic models. On these, sheet tin "plates" or "caps" were fitted with mallet and punch (dispensing with counter-dies) to embrace incisors, canines and bicuspid, and the broken portion of lower alveolus; two layers of *thin* sheet tin, for ease of adaptation, being used. These plate splints, perforated for ligatures, were then tied in place with silk, and worn without discomfort for some weeks. The patient made a speech to his electors within forty-eight hours, and continued to "stump" the campaign.

At present, six weeks after, all the teeth except one upper incisor are perfectly firm, the most regrettable incident being that the plucky candidate was not elected.

July 31st, 1886.

REVIEWS AND NOTICES OF BOOKS.

THE MAMMALIA IN THEIR RELATION TO PRIMEVAL TIMES, by OSCAR SCHMIDT, Professor in the University of Strasburg, International Science Series LIV. Keegan Paul, Trench & Co., London, 1885: pp. 308.

THIS book cannot fail to prove of interest to any of our readers who take a sufficiently liberal view of their calling, to wander occasionally outside the limits of daily practise, and dip into the inexhaustible treasures of dental lore that abound in the science of zoology. The subject is presented in a rather popular form, as is the case indeed with most of the "International Science Series," and is abundantly illustrated with passable woodcuts. There is always a percentage of students who follow up in after life the various sciences, the elements of which are inculcated in the lecture room; a few who are wise enough not to straightway forget all they have learnt as students, save that which has a direct bearing upon the earning of their daily bread, and once safely through their examinations, avoid the temptation to gravitate down into the groove of surgery practise. To this sensible

few we can freely recommend Professor Schmidt's book, as likely to interest, and certain to instruct them notwithstanding a few trifling faults, to which we propose to draw attention before entering upon the subject matter of the book itself. First of all it is written in very imperfect English, and as it is nowhere stated to be a translation, we presume that the author, although not himself an Englishman, has ventured upon the bold experiment of writing a book in a foreign tongue. If this be so, his general success is far more wonderful than that he should have occasionally blundered, but however much we may admire the linguistic feat, we confess that the presence of continual oddities of diction seriously detract from the readability and clearness of the work. Thus molars and premolars are continually described as "cheek teeth," an expression which really conveys nothing at all to the mind, and we find the following sentence in connection with the sloths "having lost their teeth all but a few pieces of cheek teeth"; again *thylacoleo* is described as having "canines and front cheek teeth"; why not "premolars"? no English person would ever speak of "cheek teeth," or would understand what the words meant. Again, according to the professor, a certain cloak of ice gives us, "a vivid picture as to how we have to conceive the enormous glacial formations," &c., &c. The "as to how" is inelegant to say the least of it, but what are we to say of the following sentence: "This disappearance of numerous races of animals, in the eastern and western hemispheres, *almost makes the impression as if it had been* the result of some such catastrophe as we have declared ourselves unable to admit." The italics are ours, but the grammar is certainly Professor Schmidt's own, and similar un-Englishisms are scattered freely through the book. The anatomical terms are often so old-fashioned as to be very puzzling to modern students. Thus "perone" for "fibula," "spring bone" for "astragalus," "skiff bone" for "scaphoid," are not much used now-a-days.

Apart from the language, we have another graver fault to find with the author, and that is that he is continually running a tilt at a religious belief of a certain kind, and to this end drags in most irrelevant matter concerning the miraculous. We deplore these unnecessary and unwholesome digressions. The professor is interesting while talking of paleontology and zoology, in both of which subjects he is deeply versed, but when engaged in mortal combat with an idiotic dummy of his own imagining about his

"beliefs" and "unbeliefs," he is a most uninteresting spectacle. Far be it from us to tread upon this delicate ground. We think that almost every sensible person, whether religious, scientific, or both, regards the profitless discussion with aversion. The arguments have been repeated *ad nauseam*. The topic is a dangerous one, it is a literary quicksand, and it is painful to see a really clever man floundering in it. Hume himself crowded more foolishness into a few pages on this question than could be extracted from all his other writings (which statement may be proved by a reference to the delightful criticisms by Robert Dale Owen, *vide* "Footfalls on the Boundary of Another World"). Suffice it to say, that the subject of the relations of religion and science, is ground upon which the "angels fear to tread," and where no one "rushes in," except, of course, Dr. Atkinson of New York, who, by the way, to judge from the excellent rejoinder in the current *Cosmos*, by Dr. Peirce, appears to have danced a clog dance in this treacherous spot, and to have excelled himself in what Dr. Peirce gracefully called relying upon his inspiration for his facts. Apart from this blemish which may prejudice the young and cannot fail to weary the mature mind, the book is thoroughly worth reading.

Professor Schmidt suggests that the milk dentition in diphyodont animals is not a separate set of teeth, but that owing to a shortening of the tooth-bearing portion of the jaw, some of the germs have been crowded into such a position as to develop earlier than the rest. We do not quite see how this view is compatible with what we know of the development of the permanent germs from the neck of their temporary predecessors. Our author also prefers Professor Owen's view of the functions of the extinct *thylacoleo* regarding him as a flesh eater, to that advocated by Cope and adopted by Tomes. One of the most interesting chapters, is that on the perissodactyle ungulates; the manner in which Professor Schmidt traces the changes in the bones of the foot and in the molar pattern from *palæotherium* to *horse* in the old world, and from *orohippus* to *horse* in the new, is clearness itself. It is curious to speculate upon the causes of the comparatively sudden extinction of the horse in America, after such countless ages of progressive development from the little *orohippus* (not so big as a sheep) to an animal equal in size to our modern horse; Schmidt points out the strange fact that this extinction was contemporaneous with the appearance of man, and moreover

suggests that primeval man was a worse enemy to the horse than all the carnivora put together. The chapter on the ancestry of the modern ox is also very interesting, while that dealing with the *proboscidea* does not in our opinion rise to quite the same level. In passing we may note that Professor Schmidt places *dinoceras* lower on the scale of creation than the *monotremata*, principally on account of its feeble brain development. It would, however, be impossible to notice all the points of interest in the space at our disposal, so we must content ourselves with saying that the book is well worth perusal, and will interest all who care at all to follow the progress of modern science.

MINOR NOTICES AND CRITICAL ABSTRACTS.

Part of Tooth-plate Impacted in the Œsophagus, and afterwards passed naturally.

To the Editor of THE LANCET.

SIR,—On June 9th, Mrs. D—, aged sixty-five, came to see me, complaining of great pain in the throat, and difficulty in deglutition, due, she said, to having swallowed, a short time before, part of her tooth-plate while eating a piece of cake. On manipulating the neck a little below the cricoid cartilage she complained of great pain, especially on the left side. Nothing could be felt in the œsophagus by the finger; but on passing a whalebone probe with a piece of sponge at the end, it became arrested at about six inches of its length. A coin-catcher was passed several times, but unsuccessfully; but at last it caught the edge of the plate, and after a fair amount of traction the plate turned and the extractor loosened its hold. Various forceps were then tried, but unsuccessfully, occasionally catching it, but never with sufficient firmness to move it. As some time had been spent in these attempts to extract the plate, and the patient was becoming exhausted, she was allowed two hours' rest, when a further attempt proved equally unsuccessful. It was now decided to postpone any further attempt until the following day, and, if necessary, to perform œsophagotomy, after the manner successfully carried out by Sir W. MacCormac in the case reported in the *Lancet* of May 29th. On seeing the patient on the following morning she said, to our consternation, that the substance had passed into the stomach. Great pain was still felt on swallowing, but the foreign body had evidently left its former situation. The patient was ordered to keep perfectly quiet and to live on farinaceous food, and it was decided to wait for further symptoms. She was visited daily. She still complained of great

pain in the throat and inability to take much food. To our great relief, after a sojourn in the body of three days and three hours, it was passed naturally. It was about the third part of an ordinary tooth-plate, with an ugly hook projecting from one corner, which might have led to serious consequences.

I am, Sir, yours faithfully,

W. J. CANT, M.R.C.S., &c.

Lincoln, June 15th, 1886.

Two Slaves to Cocaine.

STRANGE EXPERIENCE OF A DOCTOR AND HIS DAUGHTER IN A HOTEL.

GUESTS of the Delavan House were aroused at an early hour this morning by unearthly screechings that came from one of the central rooms. Patrolman Getchell, who was called in, forced open the door and discovered a man and a woman tearing the beds to pieces, overturning the furniture, and behaving in a frantic manner. "You are the man who climbed up the rope to my window," shouted the woman, pointing her finger at officer Getchell. There were two beds in the room, the couple having registered the night before as father and daughter. A search of the room revealed a quantity of cocaine and a hypodermic syringe. The man attempted to swallow a dose of the drug and to inject some into his arm, but the officer restrained him until Dr. S. F. Stagg, who had been summoned, arrived. Then it was learned that the man was A. S. Hazen, a well-known physician of Sharpsville, Pa. About a year ago he began to experiment on himself by taking hypodermic injections of cocaine, and soon he became a victim to the habit, taking sometimes as much as forty grains a day. Experimenting with his daughter also, he made of her as great a slave to the habit as himself.

A search revealed Dr. Hazen's diploma as a physician, a case of surgical instruments worth, probably, 500 dols, a full doctor's kit, and 9 dols. 75c. Miss Hazen asserted that when they arrived in Elmira, on Saturday night, they had 125 dols, but that a man had come into their room at the hotel and pulled her out from under the bed, where she had crawled to escape his notice, and robbed them. The doctor reiterated the tale, complaining of the disappearance of a 100 dol. bill. Their story, however, is thought to be purely imagination. The pair were removed with much difficulty to the city hospital, their supply of cocaine was taken from them and diluted, and decreasing doses were given to them at lengthening intervals.

The man presented the appearance of one suffering acutely from *delirium tremens*, apparently undergoing all the tortures of the damned. He could not be still a moment, constantly shifting his

position, jumping from his bed and muttering to himself. He declared that he would commit suicide at the first opportunity. His arms are covered with the marks of the syringe, and his face is badly burned and cut in spots, caused, he says, by an explosion while experimenting with chemicals. He is about forty-five years of age, light complexion and sandy moustache, and weighs about 135 pounds. The daughter appears about as old as the father, although she says that she is only 19 years of age. She is rather tall and exceedingly spare. Five weeks ago, she says, she was plump and hearty, and she declares that the cocaine has reduced her flesh. She seems devotedly attached to her father, and talks occasionally to him, consoling him with the assertion that he has had lots of trouble, and that he began to take the drug to drown sorrow.

About 10 o'clock Miss Hazen fell into a stupor, from which two physicians failed to arouse her. Finally, at the direction of Dr. Hazen, who declared that it was the only way to save her life, large injections of cocaine were administered and she revived, became perfectly rational and ate a hearty dinner. Hazen himself had continued in a half crazy state on a limited supply of the drug. He asserted that he could not proceed on his journey unless he was given his accustomed dose, and finally it was thought best to let him have it. Shortly afterwards he arose and dressed himself, and will proceed on his journey as soon as he receives money from his brother at Sharpville.—*Rochester Morning Herald* (New York.)

ANNOTATIONS.

THE special business to be brought before the meeting on the 21st is to say the least slightly varied, but all tending in one direction and manifesting impatience with some of the troubles which afflict the Association and of the present means of meeting them. While such questions are to be considered, we refrain from pronouncing an opinion on any of the points at issue, but we do not hesitate to say that no laws have yet been made which can work without friction, and that the stricter the law the more stubborn and ingenious will be the methods of evasion. Laws may do much to help reform, but never to achieve it. Foolish laws may effectually retard it.

WE would call the attention of our readers to a small matter noticed at page 457, under the heading of Association Intelligence, which will prove a great boon to the members attending the meeting at twelve. An entrance to the Criterion

from Jermyn Street is to be opened for our special use. The passage from the meeting room to the luncheon room will therefore be short and straight, and as the main thoroughfare will be avoided, a source of temptation to our weaker brethren to forsake the dusty road of science for the flowing fields of pleasure, will be effectually cut off.

WE hope that the letter of our Hon. Secretary will receive from members and visitors the attention which it deserves. It must not be forgotten that those who assist in carrying out the multifarious arrangements so necessary to the comfort and convenience of us all, do so by withdrawing themselves more or less from the most interesting parts of our meetings, and it is very desirable that this call upon their self-denial should be reduced to the minimum.

WE publish this month two original communications from Dr. George Johnson, both of which will be read with interest by our readers. The first, which deals with the minute anatomy of some of the phenomena of nitrous oxide inhalation, is a valuable contribution to our knowledge upon this subject. Dr. Johnson has long been celebrated as an investigator of the action of minute arterioles, and his contributions to scientific literature upon this subject have always commanded the respectful attention of the profession, we anticipate, therefore, that those of our readers who have studied the physiology of nitrous oxide anæsthesia will read with peculiar interest these observations on the state of the arterioles during the process.

THE second subject discussed by Dr. Johnson is one with which his name has been often associated lately, namely, the pathology of "dentist's leg." The physiology of the affection is very clearly stated, and the explanation given is so sufficient that we may accept the communication as a complete little treatise upon the subject. It remains, however, to provide a remedy against it, the Lyon's stool is a very convenient apparatus, and failing that, a chair to rest the foot upon affords a very simple means of obtaining a grateful change of position. It may be added that the dental engine is as easily worked with the left as with the right foot. We must always keep health in view if we are to do our arduous days' work properly, and it is no unimportant part of health preservation to provide some means for constant changes

of position, that we may avoid the unpleasant contingencies so graphically analysed in Dr. Johnson's article.

WE are all continually brought face to face with many evils that trace their origin to dyspepsia, and it is often our good fortune to be able to remedy them by alleviating the cause, but most of us will feel a slight shock at the news that a woman—one Elizabeth Rouse—has recently actually *committed suicide* to escape from the tortures of this melancholy disorder. A great many French men and women believe that the south side of the Strand was built because every autumn when the fogs came round and the "spleen" (dyspepsia) crept into the British homesteads, our gloomy ancestors used to join hands all along the Strand and at a given signal run into the Thames and peacefully drown, and we must confess the temptation that those thousands of incurable dyspeptics must have felt as they peered through the yellow fog down the grassy slope to the quiet water, must have been difficult to resist. This suicide brings home to us in grim reality and very vividly, to what terrible extremities this particular malady may drive an unbalanced mind, and will make us view Sir Henry Thompson's fanciful foibles about artificial teeth with more disapproval than ever.

THE *London Figaro* for July 10th and July 17th, contains some annotations of considerable interest to dental readers, and we have no doubt more of a similar kind are likely to follow. The *Figaro* has many times done good work in exposing shameful practices of various kinds; the editor does not mince words in dealing with such questions, nor does he hesitate to put matters before the public in all their naked ugliness. He has received many letters detailing unpleasant experiences at the South Kensington Ladies' Dental Institution, one of which he quotes in full; it is an account of a visit to the institution, to seek advice gratis, and contains the usual story of extortion.

IN another annotation *The Figaro* prints a list of medical men, with their qualifications, who figure in the prospectus of the institution as its patrons, adding the pertinent observation that "names go a long way, but people who allow their names to be used should be able to justify their action." Of course all these medical men are aware that their names appear in the prospectus, it is therefore to be presumed that they approve of the method of

carrying on the work of the institution, that they sympathise with the action of its director in employing the letters L.D.S. after the corporation who granted him the diploma have erased his name from their books; moreover that they heartily approve of advertising as a means of conducting practice, and in defiance of all the rules that have ever guided the conduct of members of the medical profession, willingly collaborate with one who has so deeply offended against its fundamental laws.

FOUR of these gentlemen are members of the College of Surgeons, six are Doctors of Medicine, one is Licentiate of the College of Physicians. It would be interesting to know in what light the University, the College of Surgeons, and the College of Physicians regard the action of their alumni, if they are aware of it. These learned bodies have ever shown themselves jealous of professional honour and etiquette, they have never hesitated to punish infringements of either. We confidently recommend to their notice the *London Figaro* for July 10th, page 5, where they will find that, without a little hair-splitting, it will be difficult to view the patrons of the Institution in any other light than accomplices and sharers both of the profits and the *honours* of public advertisement. Many letters, with details of treatment, may be found in our racy contemporary for July 17.

THE suggestion has been frequently made to the teachers in the Edinburgh Medical School, that the institution of a post-graduate course would be both acceptable and of great utility. In consequence of this suggestion a conference was lately held of representatives of all the medical institutions in Edinburgh to consider the subject. The result of this meeting was, that most of those present expressed their willingness to join in, and to further such a scheme, provided that there really appeared to be a general desire on the part of practitioners of medicine that such a course should be inaugurated. Further, it was remitted to a small committee, consisting of the Presidents of the Colleges of Physicians and Surgeons, the Dean of the Faculty of Medicine in the university, with Professor Chiene and Dr. Muirhead as secretaries, to endeavour to ascertain the views of practitioners on the subject, and to make arrangements for a tentative course this autumn, to be held during the last week of September and the first fortnight of October. Gentlemen who feel disposed to join

this course are requested to communicate with either of the secretaries (Charlotte Square, Edinburgh) before the end of July, in order that definite arrangements may be made.

THE July number of the *Independent Practitioner* takes Dr. Watt to task for some etymological observations. Dr. Watt objects to the term *pulpitis* as a hybrid word with a Greek ending and a Latin root. The *Independent Practitioner* defends the expression in a very curious manner, namely, by pointing out that the word *gastritis*, which Dr. Watt had quoted as an unimpeachable expression, was "derived from the French *gaster*, a stomach." We do not think our contemporary, the *Independent Practitioner*, was quite as sound in its scholarship as usual; gastritis surely is derived from the Greek word γαστήρ, a stomach, and is purely Greek throughout. We think Dr. Watt's contention is not so much that no words ending in "itis" and significative of "inflammation" are admissible, as that it is unscholarly to put the Greek termination on to an English, French, or Latin word, thereby producing a hybrid compound.

IN a report of a recent meeting of the Anthropological Society of Bombay, Mr. Basil Scott, one of the honorary secretaries, read a "Report on the Hairy Man of Burmah," by the sub-committee, which the society will publish hereafter in its journal. A plaster cast of the jaws and teeth of the hairy man, taken by Mr. E. M. Walton, and a photograph of the hairy family, by Messrs. Bourne and Shepherd, were handed round for the inspection of the members present. Mr. E. M. Walton remarked that there appeared to be but little difference between the jaws of the hairy man and those of an ordinary individual, whose teeth had been extracted twelve months previously. The president stated that the family, to which the hairy man belonged, had been formerly described both by Crawford and Yule. The hairy woman, mentioned by the latter was, he believed, the one who had been recently exhibited in Bombay. He called attention to Professor Haeckel's theory that the embryonic *lanugo* was a survival of the hirsute covering of our human ancestors, and cited Darwin's opinion that the hairiness of certain races of mankind was probably due to a partial reversion to the original type.

THE following is a copy of a resolution forwarded by the New York Odontological Society to Sir John Tomes :—"The members

of the council of the New York Odontological Society present their compliments to Sir John Tomes, and offer their felicitations upon the distinction lately conferred upon him. The members of the council feel that a great honour has been done the profession, and congratulate Sir John upon the hearty and general rejoicing among his colleagues, not only in Great Britain, but in America.—New York, July 1st, 1886—To Sir John Tomes, Upwood Gorse, Caterham.”

MONTHLY statement of operations performed during the month of June, 1886, at the:—

		Dental Hospital of London.		National Dental Hospital.		Manchester Dental Hospital.
Number of patients attended	...	2818	...	1655	...	739
Extractions :						
Children under 14	...	428	...	408	...	550
Adults	...	960	...	641	...	
Under Nitrous Oxide	...	690	...	486	...	25
Gold Stoppings	...	314	...	77	...	19
Other stoppings	...	937	...	538	...	62
Advice and Scaling	...	179	...	256	...	—
Irregularities of the Teeth	...	176	...	225	...	—
Miscellaneous	...	400	...	157	...	215
Total	...	4084	...	2788	...	871

MR. THOMAS SMITH, of St. Bartholomew's Hospital, recently removed a stone weighing $24\frac{1}{2}$ ounces by means of the suprapubic operation. The stone measured 13 inches in its largest and $9\frac{1}{2}$ in its smallest circumference. The coats of the bladder were healthy, neither ulcerated nor abraded, and the operation resulted in recovery. The patient was a man of forty-three years of age. This is the largest calculus ever removed during life with subsequent recovery, and may be regarded as a great surgical triumph.

IN the current number of the *Lancet* two cases of removal of the tongue for epithelioma with recovery are recorded, both cases were under the care of Mr. Walter Rivington, and the mode of removal selected was that known as “Sédillot's operation,” that is, the lower jaw was divided at the symphysis after lateral holes had been drilled and the tongue removed with a wire rope *écraseur*. Subsequently the mouth was powdered with iodoform and nutrition maintained by the rectum.

WE have every reason to feel satisfied with the discussion in our columns upon the not unimportant subject of tooth powder. "He who runs may read," it will not be difficult for our correspondent "Practitioner," and the pretty large section of the profession that we believe he represents, to extract from the numerous letters we have published upon this subject the information they seek. One satisfactory feature in the discussion of the subject has been the comparative unanimity of most of our correspondents upon the most important points. We consider that the correspondence is a valuable addition to our practical knowledge.

WE have received a letter from Mr. Quinby requesting us to make the following corrections in the letters we published last month, page 442, line 4, omit the word "and ;" line 15, for "their" read "then ;" line 38, for "basis" read "bones ;" line 41, for "education" read "educated ;" page 443, for "poor" read "face ;" line 22, for "frame or" read "from a." For "Praxiteles" read "Praxiteles."

CARIES IN THE MASTODON.—Professor Leidy lately directed the attention of the Academy of Natural Sciences of Philadelphia to the posterior portion of a last upper molar of *mastodon floridamus*, which was remarkable for apparently exhibiting the result of caries, a condition which the professor had never previously observed in an extinct animal. The supposed caries was in the form of an irregular excavation immediately above the crown of the tooth, and about four lines in depth ; the surface of the cavity appeared to be irregularly eroded.

THE sixth and last volume of the "International Encyclopædia of Surgery" has made its appearance, and Dr. John Ashurst must be congratulated upon the conclusion of his arduous task. Out of seventy-one contributors, forty-six are Americans and thirteen are English.

WE are very pleased to learn that the perpetual studentship of St. Thomas's Hospital, given by the Merchant Taylor's Company, has this year been gained by J. G. Turner, son of the vice-president of our Association. We hope that this is only an earnest of many honours to come. It is a first-rate commencement, and we congratulate both father and son upon the success of the latter.

A RECENT volume of the *New Sydenham Society's Transactions* is devoted to the subject of micro-parasites. It is edited by Mr. Watson Cheyne, and consists of a series of selected essays touching upon most of the disorders that have been traced to a micro-organic origin. It is capitally illustrated by a series of lithographic plates, and will prove interesting and instructive to all who care for the study of bacteriology.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.—During the July sittings of the examiners the following gentlemen passed their final examination, and were admitted licentiates in dental surgery :—Harry Graham Smith, Edinburgh ; Frank Gordon Allen, Derbyshire, and James Taylor, Lancashire.

THE committee of distribution of the Hospital Sunday Fund have awarded £72 18s. 4d. to the Dental Hospital of London, Leicester Square, and £15 12s. 6d. to the National Dental Hospital, Great Portland Street.

CORRESPONDENCE.

We do not hold ourselves responsible for the views expressed by our Correspondents.

The Coming Annual Meeting.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Will you kindly allow me to remind our members and visitors attending the Annual Meeting, that a book will be provided at the entrance to the Museum in Jermyn Street, for them to sign their names in, and to request them to make a point of doing so on entering, in order to avoid the usual complaint afterwards, that some member's name has been left out in the published list of those attending.

I wish also to ask members to come prepared with cheques for £1 1s.—or the exact sum in money to pay for their dinner tickets, so as not to require change, which causes considerable delay in the issuing of the tickets, and I shall also be glad if Members will take the tickets on the Thursday morning, as far as possible ; every little consideration of this kind on the part of Members, will help to lighten the work of those engaged in carrying out the details of the programme.

I am,

Your obedient servant,

F. CANTON,

Hon. Sec.

The New Dental Hospital at Brighton.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—In your last issue of the Journal you give a report of the opening of the above hospital. In reference to the event in your June number you note the absence of some well-known practitioners that you would have expected to be associated with the scheme. So long as the report of the opening ceremony was confined to the local press I did not consider it necessary to offer any criticism upon the action of professional brethren; but now that you, sir, have reported the event and commented on certain abstentions, I feel that it is due to professional friends that they should have an account of the circumstances which prevented some of us in Brighton from giving our support in founding this institution.

I fear I must trespass somewhat on your space, as it will be necessary to enter rather fully into details, in order that the position may be understood by those unacquainted with the circumstances.

To begin then: Six practitioners wished to start a dental hospital and they took the proper course of calling together all the dental licentiates of the town to discuss the project, and issued the following circular:—

Brighton, March 17th, 1886.

DEAR SIR,—As several members of the profession think the time has arrived to found a dental hospital in Brighton, it has been decided to hold a meeting in the Mayor's Room, at the Town Hall, on Tuesday, March 23rd, at 8 p.m., to consider the project. Your kind attendance will be esteemed a favor. If you are unable to be present your views by letter will greatly oblige.

Yours truly,

WALTER HARRISON,

Hon. Sec. *pro. tem.*

The following gentlemen have acted as a Committee to bring the matter before the profession:—Mr. D. E. Caush, Mr. W. Harrison. Mr. C. B. Stoner, Mr. J. N. Stoner, Mr. John Wood (Chairman), Mr. W. R. Wood, junr.

Previous to the meeting several members of the profession spoke to me in adverse terms about the scheme, and I realised that there was a strong feeling of opposition, and, wishing rather to assist than thwart any attempt to found a Dental Institution in Brighton, I thought it my duty to do what I could in the first place to secure professional unity. The meeting was attended by some 21 or 22 dentists, a few of whom had not been invited, not having diplomas; they, however, had the good taste not to take part in the proceedings other than as interested spectators. Mr. John Wood, at the opening ceremony, is reported by you to have said in reference to the discussion at this meeting, that "it was unanimously thought it was the right thing to do." I think he cannot have been correctly reported, as I am sure he will remember

that various antagonistic opinions were rather warmly expressed. One objection was of a personal nature to some of the promoters ; another to the floating a new charity on the town in a time of great depression, while some of the existing medical institutions were much in need of funds ; another that it might prove injurious to those practitioners who depended upon small fees ; and yet another, that it was quite open to consideration whether the needs of the poor might not be better met by extending the dental departments of the existing institutions. Altogether the conflict of opinion was considerable. I could not consistently oppose the promotion of a dental hospital, though I felt that the moment was not opportune by reason of the great financial depression and the want of professional accord. Therefore, to avoid a direct veto, I suggested that as we were comparative strangers to each other—many of us having never met before as professional brethren—that it might be well to adjourn the discussion for twelve months, and, in the interim, seek to know more of one another by means of association, possibly by starting a Southern Counties Branch of the British Dental Association. This idea proved acceptable to the meeting, and a resolution to that effect was carried by a large majority, only five of the six promoters voting against it.

The meeting, therefore, for the purposes of the hospital stood adjourned for twelve months.

It then became necessary to gauge the sentiments of the meeting, as to the desire for an association ; and on the chairman (Mr. John Wood) vacating the chair, I was on his motion placed in it, for the purpose of ascertaining the wish of those present, relative to the establishment of a Southern Counties Branch of the British Dental Association, to include Hampshire, Kent, Surrey, and Sussex.

This was unanimously declared desirable, and I then and there undertook to do my best to bring that about as quickly as possible. Up to this point I, of necessity acted alone, but immediately after, and ever since, I am glad to record that I have been most cordially and effectively assisted in the efforts to bring about this branch of our association by several of the leading practitioners of Brighton, and subsequently by well known and much respected members of the association in the south of England. We are now in the month of August, and have already held a meeting in May, to inaugurate the Branch, and the first working meeting of the Branch in July, so that I do not think impartial observers will say that we have lost much time in the execution of the wishes of the meeting of March 23rd. If no steps to this end had been taken I could have imagined that the promoters of the hospital might have lost heart, and have determined to carry out their project, but in the circumstances of the case I submit they are without excuse on this point.

Why they should have deliberately set at nought the wishes of so representative a gathering of professional men whom they had invited

to their counsels they can best explain, but that they did so the sequel shows. A second circular was issued by them as follows :—

Brighton, April 30, 1886.

"DEAR SIR,—We, the promoters of the Dental Hospital for Brighton and district (having thoroughly considered the result of the meeting of Dental Licentiates held March 23rd last) desire to inform you that we have decided to carry out our original project. Should you be willing to co-operate with us kindly attend our next meeting, to be held on Tuesday, May 4th, at 21, Old Steine, at 8 p.m.

We are, Dear Sir, Yours truly,

E. T. ASH, D. E. CAUSH, W. HARRISON,

C. B. STONER, JOHN WOOD, W. R. WOOD, Junr."

It will be observed that the names of six practitioners were appended to this declaration, but not the same six, for one of their former number (a well respected and old established practitioner), who ventured to think at the meeting of March 23rd that the cause of the hospital would be best served by an adjournment, and voted accordingly, was (as I am told) never afterwards summoned to any meeting of the promoters with whom he had hitherto acted, and being quietly shelved, another practitioner was substituted for him.

The second circular was not, I understand, sent to all the recipients of the first communication, but some of us were favoured with it. Their action, however, did not rest here, for certain gentlemen who had voted with the majority in favour of the adjournment, were interviewed and persuaded to change their attitude, and to accept positions on the staff. I offer no comment upon this change of front, but simply remark that I, and those who think with me, were obliged to decline to co-operate with the promoters, in the face of so decided an expression of opinion as was given at the meeting referred to. We agreed in the view that to establish a dental hospital successfully the support of a united profession is essential.

This in the initial stages, is not always attainable, it will sometimes involve the exercise of patience and tact. But now that the British Dental Association is spreading its beneficial influence over the country, professional men are finding that it is a much easier thing to unite for the common weal than formerly, and I venture to suggest that promoters of dental hospitals will find their way much smoothed for them if they start from the platform of this Association, where they will have learned to know and to respect each other.

In the first paragraph of your report it is stated that the hospital was opened "in the presence of a large number of the medical profession." If such was the case it is singular that the press, which is generally anxious on all ceremonial occasions to publish representative names, should in this instance have withheld those of the medical profession.

Yours truly,

J. DENNANT.

Brighton, August 4th, 1886.

Tooth Powder.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

The forcible notice in your last issue regarding my remarks respecting the compounding of tooth powder with obnoxious ingredients, can only be answered by your correspondent making personal inquiries. I have no desire to enter into a controversy through the medium of the Journal. To convince you that deleterious powders are supplied, I herewith send you one, which can readily be tested by placing a small portion between the teeth. I consider I have done a great justice in bringing statements forward that I can prove as facts. In my mind the simple and effectual remedy would be to raise a fund to support an analyst in connection with your Association, whereby members could, from time to time, send in samples of supposed detrimental dentifrices. The evil would soon cease to exist. I also consider the domain of dentifrices should be under the supervision of the respectable dentist and not of the chemist. As to the number of dentifrices that are supplied outside of the profession, their name is legion. Let it become a well-known fact that dentists only can prescribe for the wants of their patients, or let the respectable dentist select a good chemist to recommend and vend the dentifrice he approves of.

I remain, yours respectfully,

ALEXANDER JAMIESON.

[We have submitted the powder enclosed by Mr. Jamieson to a competent authority, and subjoin his letter to us reporting upon it.—ED. B.D.A.]

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—The sample of "*Vegetable Antiseptic Dental Scaling Powder*," submitted by Mr. Jamieson, is certainly more gritty than appears desirable for daily use. This roughness, however, seems due *not* to *pumice*, but a fine form of silica which, of course, may have a purely vegetable origin. Of this gritty siliceous matter, insoluble in the mouth, the powder contains about 19 per cent. There is also 16 per cent. of chlorate of potassium, 31 per cent. carbonate of lime, and 33 per cent. soluble organic matter, like sugar of milk, with a trace of colouring matter.

It is difficult to form an opinion as to whether the quantity of this abrasive ingredient would be positively injurious to the teeth, but I enclose in a packet the silica separated from the powder, that you may judge for yourself. The presumption, of course, is against so much *insoluble* matter, however fine, especially as there is no soap to promote its mechanical suspension. Otherwise the dentifrice is quite harmless.

Yours faithfully,
F.C.S.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I am glad that this subject is being ventilated. I think the two objects to be aimed at in making up any tooth powder may be briefly described as *helpful, but harmless*. It is no easy matter to make up a perfectly good powder, as I can testify after many experiments with a chemist of the town. Soap in large quantities is most unpleasant, and yet is indispensable; and so with other ingredients.

At last we hit on a formula, which I think so good that I unhesitatingly recommend it. It will be observed that attention has been given to the various ingredients generally considered indispensable: 1st, for cleaning the teeth; 2nd, destroying the *leptothrix buccalis*; 3rd, neutralising acid secretions; 4th, keeping the gums firm and healthy; 5th, to blend the whole with perfume so as to render it pleasant in use. I append the formula.

R Cretæ Precip.	...	...	...	...	3̄ x.
Magnes Pond.	...	...	...	...	3̄ij.
Iridis Pulv.	...	...	...	...	3̄i.
Sacchar Alb.	...	...	...	...	3̄i.
Tannin	...	...	...	...	3̄i.
Oak Bark	...	...	...	...	gr. x.
Saponis Pulv.	...	...	...	...	3̄ss.
Otto Rosæ	...	...	...	...	ʒ xl.
Ol. Limonis	...	...	...	...	ʒ v.
Carmine	...	...	...	...	gr. x.

Misce.

I am, &c.,

E. M. TOD.

Brighton.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—From the interesting letters on, and recipes for, Tooth Powders which have appeared in the last numbers of the Journal, it appears that soap is considered a valuable ingredient, and rightly so.

The great objection to soap is its flavour, and efforts are used by most tooth powder makers to mask this, either by substituting another or by means of excellent perfumes. Judging by experience it seems impossible to obtain from the manufacturer a soap which shall be practically tasteless, for the simple reason that all soaps are more or less adulterated. Resin—among other compounds—is a favourite, and to this is largely due the disagreeable taste. With a view to obviate the greatest difficulty in making a good tooth powder or paste, I propose to offer a few suggestions as to the manufacture of a pure soap in small quantities, by what is called the "cold process." With a little practice this method is so easy that no practitioner need be above trying it as an experiment.

In a glazed jar—about a gallon capacity—put 1 lb. of lard perfectly free from salt and 2 lb. of olive oil. Heat slowly before a fire or over

a low gas jet. Temperature of oil between 110 and 120° F. Dissolve $\frac{1}{2}$ lb. of 98 per cent. caustic soda in two pints, or 40 oz. by measure, of water, stir and *allow it to cool down* to temperature, 80° F. Slowly pour soda lye into melted oil, stirring the while, until it is of the consistence of honey. Empty into glazed iron or ordinary baking dishes, put by in a warm cupboard or room for a month or two (soap improves by keeping). You will then have about 6 lbs. of soap quite unobjectionable to taste; in fact, almost tasteless, perfectly pure, and the like of which you cannot buy. Being unadulterated it will go further in the manufacture of tooth powder than any other.

To Mr. W. Menzies, of St. Helen's, Lancashire, I am indebted for valuable hints on soap making, and from him the soda can be obtained.

London Bridge, S.E. R. DENISON PEDLEY, L.D.S., M.R.C.S.

Quackery.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Will you allow me to ask through your columns whether an individual whose diploma has been withdrawn by the College which granted it because of disreputable advertising, and whose name has been struck off the Register by the Medical Council, may still with impunity add the letters L.D.S. to his name; and, if not, whether the Association ought not forthwith to institute, in such a case, a prosecution for so flagrant a violation of the law.

Your obedient servant,
X

APPOINTMENTS.

EUGENE C. CLARKE, L.D.S.I., has been appointed Hon. Dental Surgeon to the Normal Training College, Bangor, South Wales.

W. H. WAITE, D.D.S., L.D.S., has been appointed Consulting Dental Surgeon to the Liverpool Dental Hospital.

R. EDWARDS, M.R.C.S., L.D.S., has been appointed Dental Surgeon to the Liverpool Dental Hospital.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 40, Leicester Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Members are reminded that their Subscriptions for the current year are now due and should be remitted to the Treasurer, at 40, Leicester Square.

According to the Bylaws of the Association, Members who are one year in arrears are not entitled to receive the Journal.

All Correspondence for the Editor, Books for Review, and Exchange Journals, should be addressed to 40, Leicester Square, London, W.C.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 9.

SEPTEMBER 15, 1886.

VOL. VII.

The Annual Meeting.

THE Annual General Meeting in London is now a thing of the past, and looking back at the events of the 18th, 19th and 20th of August, we are inclined to think few will deny that the meeting was in every respect a very successful one. The report of the proceedings occupies a considerable space in the present issue of the Journal, and it is not now our purpose to discuss its details, but rather to direct the attention of our readers to certain inferences that may, we think, be fairly deduced from the report.

First of all it may be observed that the character of the papers presented to and discussed by the meeting, has undergone a very distinct change, a change that may be regarded as more or less inevitable. The Association is working out its own destiny, and seeing that the rapid and

healthy development of the numerous Branches affords ever increasing opportunities for discussing the advances of surgery and exploring the mysteries of science, it is in accordance with the fitness of things that the central parent Association should relegate these matters more and more to the Branches in the provinces and to the Odontological Society in London, and thus find leisure to devote its own attention to its proper sphere, the organization of the profession.

It must never be forgotten that the British Dental Association came into existence to effect *political* ends and to protect *political* interests; it is not and never will be a purely scientific society. It is, therefore, without surprise that we find the subjects of education, legislation, public appointments and dental ethics engrossing to a very large degree the attention of the annual meeting, and although two very admirable contributions of a purely scientific nature found their place in the programme, there were five devoted to questions outside the domain of science.

It was with deep interest that the meeting listened once more to the views of Mr. Fisher, of Dundee, who may fairly claim to have been the pioneer of the present energetic revival of the question of the teeth of the poor, whether in schools or workhouses, or in the public services. In a comparatively brief space of time Mr. Fisher has succeeded in attracting the notice, not only of the whole of the profession, but of a large section of the outside public to his case against society. Already two talented and indefatigable members of the Association have opened kindred campaigns, Mr. Spence Bate directing his artillery at the Navy, while Dr. Cunningham, in a long and closely reasoned paper (which will appear shortly in our pages), points out the absurdities of the system at present in vogue in the Army. Not only were the papers excellent,

but the writers were in earnest, and the discussions full of vigour and life. Reforms conducted in this manner do not usually fail of accomplishment; opposition does them good as a rule, but what does most good is publicity. Our readers will therefore be delighted to hear that the *Dundee Advertiser* has already published Mr. Fisher's paper at length, and devoted a leader to the discussion of its merits. Not long ago the *Standard* paid Mr. Spence Bate a similar compliment. These are surely encouraging signs of the times. The great question of education was carefully discussed by Mr. Smale and Mr. Hutchinson, but this department will call for notice at our own hands later on.

Interesting and important as these papers and discussions undoubtedly proved, and vividly as we may recollect the energy of purpose of these ardent reformers, we may still hope that future annual meetings may outshine in this respect the triumphs of 1886. The very same men may themselves eclipse their late performances, and new men will assuredly arise who will equal if not excel them. But in one respect we cannot help thinking that the meeting in the metropolis of 1886 is destined to be distinguished as long as the British Dental Association continues to exist. It will be memorable for a discussion of which the Association may feel justly proud, a discussion raised upon a broad question of principle, raised from unimpeachable motives, to elicit an expression of opinion upon the fundamental constitution of our Association. This discussion was carried on with admirable good humour throughout, although necessarily touching upon delicate questions; it was debated with clearness, dignity and eloquence of no mean order. Those who at first were inclined to favour the proposed changes were not overruled or out-voted, but what is far more satisfactory, won over and convinced. The principles laid down by the

Chairman, and expounded with such force and clearness by Mr. Macleod and Dr. Waite, are the only principles upon which this Association can exist and do its appointed work, and this exposition of these principles must be preserved in the archives of the Association as a classical precedent should similar questions ever arise again for discussion. Laws which aim at rigid exclusion are difficult to frame, difficult to enforce, and in our case will in a few years become a dead letter. That they are difficult to frame is amply shown by the fact that the proposed wording of one bye-law would, if strictly applied, exclude most of the Representative Board and would render it impossible for the editor of the Journal to remain a member of the Association. Another proposed change forbidding the publication of professional qualifications would perhaps debar from membership all whose names and qualifications are published in the Journal; for we would remind our readers, and most of all those who are eager for fresh reforms, that *laws are interpreted not according to the intention of the framers, but according to their literal meaning*. Juries and magistrates view these questions from a lay standpoint, and are reluctant to enforce what appear to their eyes vexatious and oppressive restrictions. We lay much stress upon this point because it appears to us that the framer of these proposed changes was under the impression that the bye-laws would be administered according to the meaning he *intended* to convey, whereas there is every possibility that their literal meaning might some day be taken advantage of to harass and to vex those whom Mr. Blandy would be among the foremost to honour and to defend. These slips sufficiently indicate the difficulty of framing laws. The difficulty of enforcing exclusive legislation consists in the expensive machinery required: as we have again and again pointed out to those

who, because we do not conduct incessant prosecutions, refuse to join our ranks, forgetting that until they provide us with the sinews of war in the shape of subscriptions, we cannot fight as much as we might wish. Lastly, exclusive legislation of this sort will soon become unnecessary, because the people against whom it is aimed will die off whilst their places are not filled up. The Association must inevitably in the course of a generation consist entirely of qualified men and then such laws will have no longer any *raison d'être*.

The main intention of the proposed changes will undoubtedly receive the careful consideration of the Representative Board, and probably means will be devised by which the chances of friction between the Branches and the Board will be reduced to a minimum. In every way we consider that this discussion has done incalculable good; it has defined our position, marked out our limits, and explained the spirit in which the Association was formed, and has been carried to its present pitch of prosperity.

Elsewhere we speak of the Demonstrations and the Art Exhibition. The latter was, as might have been expected, a great improvement upon last year and yielded £3 10s. for the Benevolent Fund. The dinner, too, will be found fully reported and the speeches will repay perusal. After-dinner speeches are sometimes very important features in meetings of this sort, and we are glad to say that it fell to the lot of Mr. Turner to give expression to the debt of gratitude that we owe to the Royal College of Surgeons, a debt that cannot be over-rated and ought never to be forgotten. Sir Edwin Saunders left nothing to be desired in the duties of the chair, and even contrived to impart a graceful novelty to the toast of "The Queen"; the presence of Mr. Marshall, Mr. Sibley, and Mr. Trimmer emphasized the increasing importance and popularity

of the Association ; Mr. George Parkinson's irresistible solicitations actually drew forth an addition of close upon fifty guineas to the annual income of the Benevolent Fund. His *début* as secretary to the Fund has been attended with singular success ; nobody seemed to be able to say no to his demands, and certainly never were subscriptions more pleasantly raised.

The social diversions by which the meeting was enlivened were of a specially pleasant character. The weather was fortunately propitious on Saturday, so that nothing detracted from the brilliancy of the garden party at Fairlawn. Our readers will find elsewhere the details of the various festivities, so that they may remind themselves of pleasures past, and anticipate in imagination the coming events at Glasgow next year.

The Law of Libel.

THAT the law of libel can have the least connection with THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION, may be surprising to many of our readers ; yet it is a fact that scarcely a month passes without serious questions relating to this subject cropping up for the consideration of the Publishing Committee. The law of libel is now and has long been in a very unsatisfactory state. Very few statutes exist dealing with the matter, and these being very general in their terms, judgments in the courts have depended almost entirely upon juries. This has led to the infliction of great hardships upon the press, and has seriously curtailed powers which, rightly used, are capable of performing highly important services for the public. The press in late years has developed into a great institution. It has really become the sole guardian of many public interests ; and has done this mainly by exposing

and denouncing abuses and scandals. It has hitherto performed this function in constant peril, and at a risk, often realised, of being mulcted in heavy damages; perhaps at the suit of a rogue deservedly denounced, yet whose plausible story has imposed upon a too credulous jury. In these circumstances, the recent judgment in an action for libel against the *Horse Guards Gazette*, pronounced in the Queen's Bench Division of the High Court by the Lord Chief Justice and Mr. Justice Denman, will be welcomed by journalists as an earnest of future relief. This judgment has for the first time established in unequivocal terms, the right of the press to expose and denounce public scandals. It has now been laid down that where real evils exist, it is within the legitimate right of the journalist not only to make them public, but "to point them out boldly; to denounce and expose them." A public evil being proved to exist, newspaper articles exposing it are pronounced "privileged." In the case of "privileged" writings the law assumes the *bond fides* of the authors and throws the *onus* of proving malice upon the plaintiff, who, if he is to succeed in his action, must show that the privilege has been exceeded and has been made a cloak for private malice.

In the case of journalism in our own profession, it is easy to see how the judgment to which we have referred will give safer scope for comment upon persons and actions with which until now it has been very dangerous to interfere. Hitherto in every case the publisher of a personal statement might be called upon to prove its truth; now if the statement can be shown to be made in good faith for the public benefit, it is for the aggrieved individual to prove its falsehood. Dental quackery, the assumption of sham titles by unqualified men, the use of mendacious advertisements and all the arts of chicanery by which the charlatan

is enabled to impose upon and defraud his victim are surely fit topics for discussion and public exposure ; and we believe that if this Journal were to undertake the task of denouncing offenders by name, it would run little risk of an adverse verdict were its conduct challenged in a court of law.

The advantages which a regularly constituted representative body, acting demonstrably for the public good, holds over a private individual, were lucidly set forth with his wonted acumen, by Sir John Tomes in the address at the annual meeting, which appears on another page ; and his remarks upon the initiation and carrying out of prosecutions under the Dentists Act by the Association, forcibly apply, *mutatis mutandis*, to the conduct of our journalists. Statements detrimental to another practitioner—especially if made by a neighbour—are pretty sure to be set down to envy or private malice ; whereas the denunciation of individual misdeeds by an accredited organ of the press speaking on public grounds and as the mouthpiece of an united profession, must be received with respect and heard with attention. But this brings us to another point in our case. The Association must be above all things representative, it must include in its ranks all who have a right to call themselves reputable practitioners of dentistry, we must change our hundreds into thousands so that our voice may be acknowledged beyond question to be the voice of the dental profession. It should be fully acknowledged that our Association and its journalistic mouthpiece are entitled to stand forth as really representative of the dental profession. We know—and we think we may say it without offence to those who have not joined us—that we do number in our ranks most of all of those who, by their eminence in the general scientific and professional world, have raised dentistry to its present respectable position ; but our number should be beyond dispute, large enough to

admit our claim with the public to speak and act for the whole profession—we must spare no effort to enlist every worthy practitioner. We know that many of our members are, at the cost of heavy self-sacrifice, devoting themselves to overcoming the apathy and the ignorance of practitioners who still stand aloof. It is now possible to show the most obstinate, the most selfish and least public-spirited of these practitioners that the Association is doing work which will be of benefit to all; and we trust that our volunteer recruiting agents will relax none of their energies. If, however, our numbers were sufficiently large, our, at present, insufficient income would be consequently great enough for all purposes, and thus many abuses—to some of which we have alluded—which we are now obliged, impatiently, to tolerate, might be easily and speedily swept away.

ASSOCIATION INTELLIGENCE.

Annual Meeting of the Western Counties Branch at Exeter.

THE Annual Meeting of the Members of the Western Branch of the British Dental Association, was held by the kind permission of the President and Committee of the Devon and Exeter Hospital, in the Board Room of that Institution, on Friday, July 30th.

At 9.45 a.m. the Council met for the transaction of the private business of the Branch.

At 11 a.m., the General Business Meeting was held. At the opening of the proceedings the chair was taken by Mr. Geo. C. MacAdam, L.D.S., Eng., the President for the past year; and there were also present the President-elect and Hon. Treasurer Mr. J. T. Browne-Mason; and the Hon. Secretary, Mr. Henry B. Mason; also Messrs. R. P. Morrison, J. J. H. Sanders (Barnstaple); Richard Rogers (Cheltenham); C. A. Hayman, A. Smith (Clifton); J. M. Ackland, W. R. Ackland, S. Arundell, Clapp, T. G. T. Garland, W. J. Goodman, Holden, H. Mallett, May, A. C. Roper, L. Shapter, L. Toswill (Exeter); E. W. Fox (Gloucester);

A. W. Hoffman (Heavitree); Payton Levason (Hereford); W. Caleb Williams (Leamington); W. H. Waite (Liverpool); Augustus Cronin, Joseph Walker (London); H. G. Barton (Lympstone); J. Marks (Newton Abbot); F. H. Balkwill, C. Spence Bate, W. V. Moore, L. E. Sexton (Plymouth); W. E. Harding (Shrewsbury); Ebenezer Apperly (Stroud); W. F. Cornelius (Teignmouth); J. Rogers Bate (Tiverton); F. H. Briggs, G. B. Pearman, J. Collins Tippet, F. Youngman (Torquay); and W. A. Hunt (Yeovil).

The HON. SECRETARY read the minutes of the previous meeting, which were confirmed.

The HON. SECRETARY announced that letters or communications had been received from the following gentlemen, regretting their inability to attend the meeting:—T. A. Rogers, London; T. Underwood, London; T. Cooke Parson, Clifton; J. Smith Turner, London; S. J. Hutchinson, London; S. L. Rymer, Croydon; H. Blandy, Nottingham; E. N. Washbourn, Taunton.

The PRESIDENT announced that the following gentlemen, having been duly proposed, had been that morning elected by the Council Members of the Branch:—Mr. L. E. Sexton, Plymouth; Mr. W. J. Goodman, Exeter; Mr. W. F. Cornelius, Teignmouth.

The HON. SECRETARY then read the Report of the Council for 1885-6, in which, after recalling the pleasant events of last year's meeting, the Council expressed their regret that the numbers of the Branch did not increase as rapidly as might have been hoped (a gain of five being counterbalanced by a loss of five), and that there was too much inclination on the part of members to leave the management of the affairs of the Branch in the hands of a few energetic gentlemen, and to show too much apathy in attending to the business of the Branch.

The Council proposed that the next Annual Meeting of the Branch should be held at Stroud, with Mr. E. Apperly as President.

The HON. TREASURER (Mr. J. T. Browne-Mason) read his Report. He mentioned the fact that he had now only four gentlemen in arrear, and he considered that they were all sound debts.

On the motion of Dr. Walker, seconded by Mr. W. E. Harding, of Shrewsbury, the Reports were then unanimously adopted.

On the motion of Mr. Balkwill, of Plymouth, seconded by Mr. J. M. Ackland, of Exeter, it was resolved that Messrs. C. Spence Bate, E. L. Dudley and A. Smith, should be elected members of

August, 1879, under the presidency of Mr. Spence Bate, and as this is a return visit to our city it may not be uninteresting to look back and trace the progress we have made.

We then mustered fifty members, and had a very successful meeting in the Victoria Hall, among those present being Sir John Tomes. The British Dental Association was then in too unformed a condition to receive affiliated Branches; in fact, it was not until 1881 that a meeting of the Parent Society was held in London, and then the meeting was of a merely business character—the International Medical Congress, with its greater interest, drawing to itself the scientific papers and debates of the time. The Exeter meeting of 1879 was followed by successful meetings in 1880 at Bath, President, Mr. George Parkinson; 1881 at Bristol, President, Mr. Cooke T. Parson; 1882 at Cheltenham, President, Mr. Richard Rogers. We then resolved to close our existence as an independent society, and become affiliated into the British Dental Association, a very wise step in my humble judgment, for as unity is strength, we became much more a power when influence was required, as a Branch of our great Society, than we could possibly have been had we remained a small, isolated Society in the West of England, with no influence, to speak of, outside our own very limited circle. From the time we became affiliated with the British Dental Association, our voice has been heard and our suggestions respected whenever anything has arisen to call for an expression of opinion. In 1883 we returned to Devon, the meeting being held, under the presidency of Mr. C. Gaine, of Bath, at Plymouth, at the same time as the meeting of the British Dental Association. The papers read on that occasion were merged into the meeting of, what was now, the Parent Society, and the Western Branch partook more of the character of host to its big parent, for we had the pleasure of entertaining the British Dental Association at an enjoyable soirée at the Plymouth Athenæum.

In 1884 we held our meeting at Torquay, Dr. W. A. Hunt being President, and last year the Branch held a most successful and pleasant meeting at Hereford, under the Presidency of the very genial gentleman who has just vacated the chair for his unworthy successor. I think the increase in these Branch Associations is a great factor in the spread and growth of the British Dental Association. To quote a letter from Sir John Tomes, written to be read to the inaugural meeting of the Southern Coun-

ties Branch, at Brighton, in May last, he (Sir John) says that "the formation of a Branch is surely a sign of advance of our calling upon professional lines. Union for the furtherance of a general purpose, and that purpose professional culture in its widest meaning, is to make open war with narrow views and personal exclusiveness—the parents of illiberality and greed—to substitute the field glass for the microscope. We are most of us," I still quote, "too apt to regard our own immediate surroundings as a general measurement, and thereon proceed to condemn that which, with a wider knowledge of the general subject, we should readily tolerate and perhaps support. The ready cure for this limitation of view and blundering in interpretation is free association with our fellow men of all grades and callings, beginning with those of our own calling." These words, gentlemen, coming as they do from the man who has done the most of all of us for the advancement of our branch of the great medical profession, need no comment of mine to commend them to us. I wish they could reach those of us who, while maintaining their practice on true professional lines, still hold aloof from us, and refuse to extend a hand to assist us in raising the *status* of the profession, and clearing us of many who, by their fraudulent representations, have obtained a place in the Dentists' Register. The British Dental Association has done very much towards purifying the Register in various ways. By comparing the first Register with that issued this year, I find that no less than 180 names, which were registered dentists in conjunction with pharmacy, have disappeared. This result, allowing a liberal percentage for deaths, may be placed to the credit of the exertions of the Executive of our Association, in one section only of the Register. The close of the last Parliament was marked by the reading a third time of the Medical Act Amendment Bill. Section 23 of that Act affects us dentists, and will assist the Representative Board in prosecutions which they may think it their duty to take up against offenders against the Dentists Act of 1878. The new Bill enacts that "There shall be repealed so much of section 4 of the Dentists Act, 1878, as provides that a prosecution for any of the offences above mentioned in that Act shall not be instituted by a private person, except with the consent of the General Council or of a Branch Council, and a prosecution for any such offences may be instituted by a private person accordingly." This does away with the need that existed of obtaining the consent of the General Medical Council before the Repre-

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sentative Board of the British Dental Association could take action by the prosecution of offenders against the Dentists Act, and is, undoubtedly, a great improvement of the section it amends.

But, gentlemen, it is not to purifying the Register alone that such societies as ours must look to elevate the mass of those associated with us ; our medical brethren found in the commencement of the Medical Register that very many names which had no real right there found entrance through the safeguards our Legislators insisted on to protect vested interests, and we are in like case ; it is a pity Parliament is not at all times equally protective of Imperial interests. Education ! Education ! is the best banner under which to raise the general position of the profession, and that can be very materially advanced by such meetings as we hold. I never attend one such gathering without taking back something to the advantage of myself and patients, for I find one's professional education never finishes, and the most gifted man among us learns in imparting his knowledge to others, while the interchange of thought, and the general rubbing shoulders, so to speak, tells on all of us in carrying out the spirit of our second bye-law, which reminds us that our "Branch is formed for the purpose of encouraging a good and generous feeling among members of the profession" as well as "to support and carry out the provisions of the Dentists Act." Many a friendship I have commenced at these meetings, which I hope to retain till I make my exit from life's stage. And while I am touching on the aims and objects of the British Dental Association, I feel constrained to raise a warning voice against the effort that is being made to make the Association more exclusive. I yield to no one in the profession in upholding at all times true professional conduct on the part of all who practise our calling ; at the same time we have in the Odontological Society an exclusive Association, devoted entirely to the scientific discussion of oral and dental surgery, and I trust that the time will never come that the British Dental Association will cease to enrol in its list of members every registered person who can find entry as our bye-laws now stand. I think it unwise to tamper with these bye-laws in this direction, either by drawing the lines more stringently or by too great laxity in the contrary direction. There is one important subject, to which if I did not refer with some degree of emphasis on this occasion, I should feel that I had been wanting in my duty as President for this year of your Association and unmindful of the claims of some of our brethren

upon our sympathy and our generosity. . I allude to our Benevolent Fund, which does not receive the full support which, in my opinion, it justly deserves. At the present time the Governors of the Benevolent Fund are educating eight children at different schools, and one or more widows of dental surgeons are receiving a small weekly allowance. Two of the children who are being educated from the funds at the disposal of the Governors are those of a deceased member of the Odontological Society, who, in consequence of ill health for some time before his death, left his family very scantily provided for. There are, however, many most deserving cases, which the Governors, owing to the want of a more general, and, may I add, a more generous support, on the part of our members are wholly unable to assist.

You will, I am sure, be glad to know that the Eastern Counties Branch of the British Dental Association has recently followed the example of the Midland Branch, by sending the fund a donation of ten guineas. I should regard it as a distinguished honour if this Western Branch would allow its President to announce the contribution of a similar sum from its adequate funds towards this Benevolent Fund, so as not to come short of the example set by these other younger Branches. There is not one of us who is not seriously conscious of the uncertainty of life, and even of those faculties and gifts upon which the success of any one of us absolutely depends. It is partly on this ground that I venture on this occasion to bring before your notice the claims of our Benevolent Fund upon the generosity of our members. And as the Fund requires for the maintenance of its usefulness an annual income, I appeal to those members who have not already subscribed their names on the roll of its annual supporters to take an early opportunity of doing so. Our Secretary, or I, as your Treasurer, will be pleased to forward any annual sum to be collected with our annual subscriptions; or, if preferred, the Treasurer of the Benevolent Fund, Mr. Alfred Woodhouse, Hanover Square, London, would gratefully acknowledge any annual sum sent to him direct.

And now, gentlemen, I must draw my address to a close. I have chosen the line I have taken on this occasion rather than a scientific theory or subject, partly because we are favoured with a good programme of papers already, besides the importance in my estimation of the points to which I have specially addressed myself; and in addition I hold it a part of the province of a good

President to make his friends work, as far as he can, for the general good, and modestly to efface himself ; so with many thanks for the very kind reception you have accorded to me, I make way for the several interesting and important papers that await our consideration to-day.

Dr. WAITE proposed, and Mr. BALKWILL seconded a vote of thanks to Mr. Browne-Mason, for his most able address, which was carried unanimously.

The PRESIDENT said he had to thank the members very much for the compliment they had just paid him. He would now call upon them to proceed with what was, perhaps, the real business of the day. If any member had first to make any casual communications, now, he thought, would be the time to make them.

Mr. PEARMAN said he had with him the cast, which he produced, of the mouth of a young Indian, aged 25 years. One of the peculiarities of the mouth was, that it was always at rest on the incisors. He passed it round to show what a splendid arch the upper, and what a contracted arch the lower was. The bite was seen as when at rest. The incisors were edge to edge. By removing the cast bite, which they would find kept the molar and bicuspid far apart, they would find what an amount of lateral movement the patient had to make to masticate his food.

In reply to a question, Mr. Pearman said the Indian was a thorough black, though the palate was a deep red.

The PRESIDENT having invited the visitors to take part in the discussion, the list of papers was then proceeded with.

The Annual General Meeting.

THE Sixth Annual General Meeting of the Association was held in London on Thursday, Friday, and Saturday, the 19th, 20th, and 21st of August, at the Royal School of Mines, Jermyn Street, W.

A meeting held in the metropolis necessarily attracted an unusually large gathering of members, and consequently involved no small amount of work to those who were responsible for the arrangement of details ; all however passed off very satisfactorily in most respects. One of the three days was to a certain extent marred by an unpleasant downfall of rain, but this mattered less in London than it might have done elsewhere.

The Secretary provided a book for signature, in order that the list of those attending might be as complete as possible. There were present :—

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| <p>Acheson, James, Rugby.
Ackland, J. M., Exeter.
Amoore, Duncan W., St. Leonard's-on-Sea.
Amoore, John S., Edinburgh.
Andrew, John J., Belfast.
Apperly, Ebenezer, Glasgow.</p> <p>Bailey, J. James, Guildford.
Baker, A. W. W., Dublin.
Balcomb, Thomas, Jersey.
Balding, E., London.
Bastern, Edward, London.
Bate, C. Spence, Plymouth.
Batten, C. A. Clifford, Kidderminster.
Bayfield, C. M., London.
Belsey, Robert, London.
Bennett, F. J., London.
Bennett, Storer, London.
Bentley, Thomas, Oldham.
Biggs, John A., Glasgow.
Blandy, Henry, Nottingham.
Broughton, George, Patricroft.
Broughton, W., Eccles.
Browne-Mason, J. T., Exeter.
Browne, Richard, Tavistock.
Browning, Daniel, London.
Brownlie, J. Ranken, Glasgow.
Brunton, George, Leeds.
Burt, Walter, Weymouth.
Butcher, J. O., London.</p> <p>Cameron, Donald R., Glasgow.
Campbell, Walter, Dundee.
Campion, Henry, Manchester.
Canton, F. Arthur, London.
Canton, Fred., London.
Carmichael, J. W., Barrow-in-Furness.
Carter, T. S., Leeds.
Clarke, Eugene C., Bangor, North Wales.
Clarke, Thomas H., Richmond, Surrey.
Cocker, A., Halifax.
Coffin, Harold L., London.
Coffin, Walter H., London.
Cole, J. Fenn, Ipswich.
Cooper, C. H., York.</p> | <p>Corbett, J. F., London.
Cormack, Alex., Edinburgh.
Coxon, Stephen A., Wisbech.
Crank, Peter, Chester.
Crappier, J. S., Hanley, Staffs.
Cronin, Augustus, London.
Cunningham, Charles M., Cambridge.
Cunningham George, Cambridge.</p> <p>Daish, William George, Ryde, Isle of Wight.
Daish, William Henry, Ryde, Isle of Wight.
Davis, Charles D., London.
Davis, Marcus, London.
Dennant, J., Brighton.
Dilcock, Thomas, Liverpool.
Donston, W., Tottenham.
Dykes, Thomas, Dumfries.
Dykes, William, Manchester.</p> <p>Elliott, W. F., Birmingham.
Emery, Albert E., Longton.</p> <p>Fernald, H. P., Cheltenham.
Finlayson, M., Edinburgh.
Fisher, W. M., Dundee.
Fothergill, John A., Darlington.
Fraser, J. Leslie, Inverness.
Fripp, John Trude, Willesden.</p> <p>Gabell, Alverstone, Redhill.
Gaine, Charles, Bath.
Garland, T. G. T., Exeter.
Geekie, William, Oxford.
Gibbings, Ashley, London.
Glaisby, Walter, York.
Grayston, W., Scarborough.
Greenfield, John, London.
Gregory, E., Cheltenham.</p> <p>Halliday, Middleton W., London.
Harding, George Hilditch, London.
Harding, W. E., Shrewsbury.
Harrison, Frank, Sheffield.
Harrison, Joseph, Sheffield.
Harrison, Walter, Brighton.</p> |
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Hatch, R. M., Clifton.
 Hatfield, J. H., London.
 Hay, John, Swindon.
 Hayman, C. A., Bristol.
 Hazelton, Robert, Dublin.
 Headridge, William, Manchester.
 Helyar, Henry, Haverfordwest.
 Helyar, William, Bristol.
 Henry, George, Hastings.
 Hepburn, D. Stuart, Nottingham.
 Hern, William, London.
 Hockley, A. George, London.
 Holford, John J., London.
 Holland, Joseph, London.
 Hoole, Stephen, London.
 Houghton, C., Manchester.
 Howarth, A., Bradford.
 Huet, Frank A., Manchester.
 Hughes, Morgan, Croydon.
 Hugo, S. G., Guernsey.
 Hutchinson, S. J., London.
 Huxley, Frank E., Birmingham.

Jewitt, W. H., Liverpool.
 Johnson, M., Chester.
 Jones, Alfred, Cambridge.
 Jones, John Henry, Ashton-on-Mersey.
 Jones, W. G. Gordon, London.

Kelly, William, Manchester.
 Keys, Charles L., Plymouth.
 Kirby, Amos, Bedford.
 King, R. F. H., Newark.
 Kluht, Henry, J., London.

Ladmore, E. J., Bradford.
 Ladyman, W., Liverpool.
 Latchmore, Edward, London.
 Lennox, R. P., Cambridge.
 Lodge, George H., Rotherham.
 Longhurst, H. B., London.
 Lyddon, George, Reading.

Machin, L., Worcester.
 Mackenzie, Fred. V., London.
 Mackie, William Owen, Manchester.
 Macleod, W. Bowman, Edinburgh.
 Mahonie, Thomas, Sheffield.
 Maitland, Louis, London.

Mallet, Gilbert, Newbury.
 Mallet, Henry, Exeter.
 Mansell, T., Birkenhead.
 Manton, John N., Wakefield.
 Marks, John, Newton Abbot.
 Martin, G., Bradford.
 Matheson, L., London.
 Matthews, A. Alexander, Yorks.
 MacAdam, George C., Hereford.
 McCash, James M., Glasgow.
 McStay, J., Belfast.
 Moore, Edward, Croydon.
 Moore, W. N., Plymouth.
 Mummery, J. Howard, London.
 Murphy, A. D., Russia.

Neale, Breward, Birmingham.
 Nisbet, M. H., Glasgow.

O'Colyer, Horace, Ryde, I. of W.
 O'Duffy, John, Dublin.

Parkinson, George F., Bath.
 Parkinson, George W., London.
 Parkinson, Herbert, London.
 Parkinson, James, London.
 Penfold, W., London.
 Petty, F., Reading.
 Pike, J. Lee, Sheffield.
 Pillin, L. Burgoyne, London.
 Prager, Alfred, London.
 Price, Rees, Glasgow.

Read, Henry G., London.
 Read, L., London.
 Redman, J. H., Brighton.
 Reinhardt, J. H., London.
 Renshaw, Elisha, Mansfield.
 Renshaw, Isaac, Rochdale.
 Rhodes, W. A., Cambridge.
 Richards, F. W., Birmingham.
 Riches, Carlton H., Cardiff.
 Rilot, Charles F., London.
 Rogers, Richard, Cheltenham.
 Rogers, Thomas A., London.
 Rouw, R. Wynne, London.
 Rymer, Samuel Lee, Croydon.

Sanders, J. J. H., Barnstaple.
 Saunders, Sir Edwin, London.
 Sewill, Henry, London.
 Sims, Charles, Birmingham.
 Sims, William, Manchester.
 Smale, Morton, London.

Smith, Alfred, London.
 Smith, J., Edinburgh.
 Smyth, W. F., London.
 Stack, R. Theodore, Dublin.
 Stirling, John, Ayr.
 Stokes, Charles, Sheffield.
 Stoner, Charles Berrington,
 Brighton.
 Storey, J. Charles, Hull.
 Sutherland, B., Glasgow.

Tanner, Thomas, Manchester.
 Taylor, James, Dewsbury.
 Taylor, William J., London.
 Tod, E. M., Brighton.
 Tones, Charles S., London.
 Tones, Sir John, Caterham.
 Torpey, George, London.
 Turner, James Smith, London.

Underwood, A. S., London.
 Underwood, Thomas, London.

Vanderpant, F. J., Kingston-on-
 Thames.

Vasey, Charles, London.
 Vice, Wm. Armiston, Leicester.

Waite, W. H., Liverpool.
 Walker, Francis D., Doncaster
 Walker, Joseph, London.
 Walker, P. S., Dundee.
 Wall, Charles, Dublin.

Wallis, A. Preston, Doncaster.
 Wallis, George, London.
 Washbourn, E. Norman, Taun-
 ton.

Watson, D., London.
 Watt, J. Ross, Leamington.
 Weiss, Felix, London.
 Weiss, Willoughby, London.
 Welch, James E., Brighton.
 Wells, John, Berwick-on-Tweed.
 West, Charles, London.
 Westlake, B., Windsor.
 Whatford, J. Henry, Eastbourne.
 Wheeler, J. Cornelius, Southsea.
 White, T. Charters, London.
 Whyte, A. C., Glasgow.
 Williams, Caleb, Leamington.
 Williams, E. Lloyd, London.
 Williamson, W. H., Aberdeen.
 Wilson, Andrew, Edinburgh.
 Wolfenden, A. B., Halifax.
 Wood, William Robert, Brighton.
 Wood, W. R., jun., Brighton.
 Woodburn, W. S., Glasgow.
 Woodhouse, A. J., London.
 Woodhouse, Robert H., London.
 Wormald, David A., Bury,
 Lancs.
 Wormald, Sidney, Stockport.
 Wormald, T., Oldham.

Young, John C., Warrington.
 Youngman, F., Torquay.

The Representative Board Meeting.

THE proceedings commenced as usual with the meeting of the Representative Board at nine o'clock on the morning of Thursday, the 19th, Sir JOHN TOMES, F.R.S., President, in the chair.

There were present Sir Edwin Saunders, Messrs. Parkinson, Rymer, Browne-Mason, Sewill, Rhodes, Underwood, T. A. Rogers, Turner, Weiss, O'Duffy, Bennett, Hutchinson, Gibbins, C. S. Tones, Dennant, Mahoney, King, Brunton, Wormald, Campbell, Macleod, Charters White, Fenn Cole, R. Rogers, Williamson, Brownlie, Smale, Campion, Woodhouse, Vasey, Huxley; Drs. Smith, Waite, Stack and Cunningham, and Mr. Canton (Hon. Sec.)

The minutes of the previous meeting having been read and

confirmed, the Hon. Sec. reported that the cases of *Smith v. W. E. Arnemann*, and *Smith v. Frederick*, had both resulted in convictions.

The Treasurer reported that the balance at the bank was £468 5s. 8d. That there were 124 members in arrear for one year, and 14 in arrear for two years.

Mr. J. Smith Turner was unanimously re-elected Vice-president of the Representative Board.

It was decided to recommend to the General Meeting, "That the Annual General Meeting in 1887 should be held at Glasgow, and that Mr. Brownlie should be the President-elect."

A telegram was received from Mr. Richard White, of Norwich, regretting his inability, through illness, to be present at the meeting, and it was decided to send back a suitable reply by telegram.

The following gentlemen were elected members of the Association:—Herbert Apperly, L.D.S.Eng. (London); Richard Edwards, M.R.C.S., L.D.S.Eng.; J. A. B. Forbes (Liverpool), and John Ellis, L.D.S.I. (Isle of Wight).

The Business Meeting.

THE general meeting of members for the transaction of business was held on Thursday the 19th at 10 o'clock a.m. It was, however, found necessary to defer the consideration of certain important matters until the following day at 11 o'clock. We shall for convenience sake report the business of the meeting continuously without interrupting our report at the moment of adjournment.

Sir JOHN TOMES, President of the Representative Board, occupied the chair.

The CHAIRMAN opened the proceedings by reading a telegram from Mr. Richard White, of Norwich, expressing his regret at being unable to perform his duties as retiring President owing to serious illness, and thanking Sir John Tomes for taking his place.

He then called upon the Treasurer to read his report.

The TREASURER reported that the present balance at the bank was £468 5s. 8d.

The HON. SECRETARY then read his annual report as follows:—

GENTLEMEN,—It is again with much pleasure that your Executive place before you their Annual Report..

The most important feature in the year's work is that of the passing of the dental clauses in the Medical Act Amendment Bill of 1886, clauses which relieve the Association from an immense deal of technical trouble, and will make it easier and less expensive to prosecute offenders against the Dentists Act.

The sincere thanks of the Association are again due to Sir John Tomes for his skill and care in introducing and watching over these dental clauses, and your Executive take this opportunity of offering him the thanks of the whole Association, and in congratulating him on the recognition of his services by the Crown and the State.

Another important feature in the annual work, is the formation of the seventh branch, viz., the Southern Counties, one which has every promise of being a large and influential body. For the formation of this branch, the Association has to thank, to a large extent, Mr. Dennant, (Hon. Secretary), who spared neither time nor trouble to accomplish his object. This branch has been most fortunate in securing Mr. Alderman Samuel Lee Rymer, J.P., as its first president, a name that ensures success to the branch. The other branches have all held successful and useful meetings during the year, and contributed in no small way to the general success and progress of the Association.

One case of prosecution has been successfully carried through during the year, that of J. W. Blake, of Sheffield. This case was one of some importance, and differed from previous prosecutions in one or two points. It has been the object of the Representative Board from the first, that each case of prosecution undertaken shall, if possible, be an advance in some way or another upon the last, so that all uncertain points in the Dentists Act may by degrees be made certain and clear.

Owing to the fact that the Medical Act Amendment Bill has been before Parliament, the Association has deferred taking action in further prosecutions. The Bill has, however, now passed, and will relieve the Executive from much trouble and the Association from much expense. Two cases that have been placed in our solicitor's hands, have—according to information I have only received to-day—been successfully carried through and convictions obtained, a full report of these cases will appear in the next issue of the Journal.

Our esteemed sub-editor, Dr. Langmore, has had to discontinue his valuable services. It was difficult to find a successor,

but the post has been filled by Mr. Arthur Underwood, and the Executive think that the Journal has not as yet suffered by the change. The Association Journal still holds its own.

The Transactions have again been issued as a separate volume.

The number of members stated last year was 562, this year the number stands at 607, shewing an increase of 45, but 16 were removed at the end of last year for non-payment of their subscriptions, therefore the number of new members who have joined during the year is 69 ; number deceased, 2 ; number resigned, 6.

Messrs. Rait and Kearton have been re-appointed auditors.

The names of the retiring members of the Board will be placed before you, and it will be for you to elect others in their place.

The details of the work of the Association are fully reported in the Journal, so that your Executive feel called upon only to occupy your time with a short report.

It was proposed, seconded, and carried, that the report should be adopted.

It was proposed by Mr. BROWNE-MASON and seconded by Mr. T. A. ROGERS, that Glasgow be the place of the next Annual General Meeting.

The motion was agreed to.

It was proposed by Mr. VASEY and seconded by Mr. BRUNTON, that Mr. Brownlie, of Glasgow, be nominated President-elect for the coming year.

The motion was agreed to.

The CHAIRMAN having explained that it was desirable that the date of the next Annual General Meeting should be so arranged as not to clash with the meeting of the International Medical Congress at Washington, in 1887, it was proposed by Mr. RYMER and duly seconded that the date of the next meeting be August 18th, 19th, and 20th, of 1887.

After some discussion these dates were agreed to.

The CHAIRMAN then stated that five provincial members had retired from the Representative Board in accordance with the Bye-law that required their retirement at the end of three years. To fill those vacancies the Representative Board recommended the election of the following gentlemen: Mr. Balkwill, of Plymouth ; Mr. King, of York ; Mr. C. Sims, of Birmingham ; Mr. C. H. Brownlie, of Southampton, and Mr. Biggs, of Glasgow. For London the following gentlemen were recommended: Mr. Walter Coffin, Mr. S. Cartwright, senr., Mr. J. R. Mummery, Mr.

Felix Weiss (for re-election), and Mr. George W. Parkinson, who as active Secretary of the Benevolent Fund would represent the interests of that fund on the Board.

Mr. WEST objected to the Council choosing the future representatives of the Association, and thought that the election should be left in the hands of the Annual General Meeting.

The HON. SECRETARY stated that he had written to all the Branches to ascertain their views, and that the nominations had been made in accordance with the expressed wishes of the Branches.

Mr. TURNER thought that Mr. West's suggestion would involve an undesirable waste of time.

The CHAIRMAN pointed out that all the Representative Board could do was to apply to the Secretary, it was impossible for the Board to go into the views of individual Branches.

The gentlemen nominated were then elected *en masse*.

The CHAIRMAN then called upon the Secretary to state under what circumstances the rooms of the School of Mines had been placed at the disposal of the Association.

Mr. CANTON explained that the permission to use the theatre and library during this month, when the whole building was usually closed, was obtained through the kindness and courtesy of the Secretary.

Mr. KING proposed and Mr. MANTON seconded a vote of thanks to the authorities of the School of Mines for granting the use of their rooms.

The motion was passed unanimously.

The CHAIRMAN then announced that the next business was a series of motions proposed by Mr. Blandy, of Nottingham, involving alterations of the bye-laws and affecting the constitution of the Association. He thought the best mode of procedure would be for Mr. Blandy to state his case, after which he (the Chairman) would call the attention of the meeting to some of the effects likely to be the consequences of the proposed changes. It would be best to deal with each proposal individually.

Sir EDWIN SAUNDERS suggested that it wanted but a few minutes to the time when visitors would be arriving, and that in the interests of dispassionate and calm discussion this subject, which could not be hurried over, should be postponed to an adjourned meeting at nine o'clock on the following day.

Mr. TURNER thought that eleven o'clock would be more con-

shall be made, altered, or repealed, except at an Annual Meeting, nor unless a written notice, specifying the nature and object of the proposed amendment, shall have been given to the Representative Board at least two months previously. Such notice shall be forthwith published in the Journal." I have given that notice to the Secretary; it has been laid before the Representative Board; it has been published in the Journal; and therefore I take it that in moving my amendments to the bye-laws, I am perfectly in order: I am abiding by your own constitution. It is perfectly possible for you to alter the bye-laws in the way prescribed by this rule, and subject to the approval of the meeting I shall venture to ask the Chairman to kindly reconsider his decision and to throw it upon the meeting. I am quite sure that from his known fairness, and his feeling that we are all here with the object of upholding the elevation of the profession, he will not go against the feeling of the meeting in this matter. I leave it entirely in your hands.

The CHAIRMAN: I cannot see that we should gain anything by entering into the discussion of a subject that, it appears to me, we could not in any way carry out. The word "Member" in the resolution has no meaning, and the word "Associate" this Association has no power to recognise. If Mr. Blandy will look over the Articles of Association and the Memorandum, he will see that these bye-laws, which were drawn out and sanctioned at the General Meeting, are in strict conformity with the Articles, those Articles being the conditions upon which we obtained incorporation. I do not think we could with any degree of right or legality take upon ourselves by such a resolution as this to establish another grade of membership, which the recognition of associates in our bye-laws would amount to. Therefore I cannot see that its discussion will be anything more than a mere waste of time. That is my opinion, but if it is the opinion of the meeting that we should go into this question, well, be it so. I have no desire to control the meeting. I have merely pointed out what appears to me to be the proper order of business, and I confess this resolution as it stands is somewhat out of order. Still, if it is the opinion of the meeting that this resolution be entertained, then, by all means let it be discussed.

Mr. BLANDY: Do I understand you have no objection to the other amendments, but simply take objection to the words, "or Member or Associate"?

The CHAIRMAN : I pledge myself to nothing, but that we must apply to the Government to get the Articles of Association so altered, as to create associates before we can consider rules relating to them.

Mr. BLANDY : I do not particularly pledge myself to these words.

The CHAIRMAN : Suppose you abandon that motion and then go on to the next.

Mr. BLANDY : If we pass the others I think we shall sufficiently assimilate the practice to achieve my object.

The CHAIRMAN : Then will you proceed to the next motion, number two on the list.

Mr. BLANDY : Mr. Chairman, Sir Edwin Saunders, and gentlemen, I assure you it gives me great pain to stand before you in this position. I am exceedingly sorry in any way to seem to come into conflict with our Representative Board, numbering as it does amongst its members the most honoured and revered members of the profession. I am grieved to do so, and it is only with a sincere desire to benefit our profession and to elevate it so that it may continue the work they initiated and have in hand, that I venture to bring this matter before you. I have been charged with going ahead a little too fast even for them, with being a little too much of a reformer, but I think by the time I have produced the evidence that I have to lay before you, you will see that these matters demand your most earnest and attentive consideration and decision, and you will pardon me for bringing them before you. At the outset I have asked Mr. Canton to produce the originals of the letters that I have written to him in regard to this matter, and also the notice to our own Secretary, Dr. Waite, asking him to produce the Minute Book of our proceedings. These resolutions are so mixed up and arise principally out of two cases, that I should like to have the originals to proceed upon. I will ask at once that those letters and that Minute Book be produced.

The CHAIRMAN : I am afraid that taking into consideration the relative position of the Association and its branches, that we have no control in respect to the transactions of the branches, so long as they do not contravene any fundamental law of the Association, (and then it would be a matter not for this meeting but for the Representative Board to consider), it would be a great waste of time to bring forward a mass of business transactions in which

we have no direct interest, and over the course of which we have no right of interference.

Mr. BLANDY: I did not think that the Representative Board or its Chairman would wish to throw any obstacle in the way of the elucidation of these facts. There are as you are aware, very grave reflections cast by some of us upon the action of the Representative Board, in proceeding to elect persons into this Association to whom we had unanimously refused election. I wish to be perfectly straightforward in this matter, and to have all the evidence and proofs at command. Of course I can proceed without them, but if a witness does not answer questions, the judge puts it to the jury to draw their own conclusions. If the Representative Board choose to shield themselves by keeping back the evidence that I think material, it is open for them to do so, but I think it is a very extraordinary proceeding. If Dr. Waite and Mr. Canton think that my letters, and our own Minute Book, which is perfectly open to me as a member of the Branch, and a member now of the Council will be so damaging to their case, let them keep them. If they will not produce them I must go on without them.

Mr. CANTON: May I say the books are here? I am in the hands of our Chairman, according to his ruling I have no objection whatever to produce anything.

Mr. TURNER: As a member of the Representative Board, I should entirely object to the transactions of that Board being made public.

Mr. BLANDY: I am referring to the minutes of the Branch.

Dr. WAITE: I have the minutes of the Branch, and shall be quite glad to produce them if I have the Chairman's ruling.

The CHAIRMAN: I cannot myself see what we have to do with a long series of statements as to the transactions of a branch over which we can exercise no control.

Mr. BLANDY: Then I will proceed with what I have to say, I have already said that my only desire is to assimilate the rules of the branches to those of the Association in chief. When I was a member of the Representative Board, a gentleman sent a form for admission to the Association who was a practising chemist, and who styled himself on that form a member of the Pharmaceutical Society. He had no occasion to add that to the end of his name, and it was thought by some that it was a distinct challenge to this Association to refuse him.

When I joined the Association and when many of you joined, we thought we were joining an Association of *bonâ fide* dentists, men trained in the art of dentistry, and not simply an Association of men who had got on the Dentists' Register just because they happened to be practising dentistry as chemists, or blacksmiths, or hair dressers. When I was on the Representative Board I opposed the election of this man, I do not know him and have no personal interest whatever in the matter. He may be a perfectly respectable man, but I opposed him because he was a chemist and not a *bonâ fide* dentist, earning his living solely by the practice of dentistry, and his name was withdrawn. When I left last April, this gentleman was elected. I asked Mr. Canton to produce the form of his election, so that there should be no mistake about this, but it has not been produced. I brought this matter, about the election of men who advertise, before our Branch last April, and they fully supported my view of the question. Now as the bye-law of the General Association stands, it is perfectly possible for any chemist practising dentistry, who is registered, and who is able to get his papers signed to come into the Association. I wish to take the sense of the Association, so that the Representative Board may have some guide as to their desires in this matter, as to whether it is their intention to admit chemists, who may be carrying on a chemist's shop in a town, to the full privileges of our meetings; whether we shall be content to sit beside them at the meetings, and be hailed as "Good fellow, well met," when we go away. I feel that the Representative Board have been too generous in this matter. I do not charge them with having any ill will at all, but I think they have been hampered by this bye-law, and the introduction of these words, "that he practises dentistry solely" will relieve the Representative Board from the necessity of electing more of these gentlemen. That is my first amendment. That is a clause which has been introduced into a society which has been formed at Bradford. It was suggested to me by my friend Mr. Ladmore. It is not original on my part: I do not take any credit for finding it out; but if you will decide whether you will admit chemists to this Association, it will at once clear the air. We can then go home and admit all our chemists, and you can admit them yourselves, and we shall all be working with the same object and the same idea.

Mr. READ: I second the motion. I do not agree with it, but I second it that it may be put to the meeting.

The CHAIRMAN: Supposing this motion to be carried, no person whatever who is concerned in any other kind of practice or occupation, in conjunction with dentistry, could be admitted a member of this Association, surgeons and physicians would be excluded, and it is doubtful whether in many instances it would not apply very closely to the exclusion of many of us who may be directors in public companies, or who hold other business positions, such as shareholders. I merely wish to draw attention to the wide scope of the amendment.

Mr. HUNT: It would call attention to my position, as I am a director of the Worthing Gas Company.

Mr. SPENCE BATE: I would propose as an amendment that every member of the Association should be informed of the names, not in the Journal, because that goes into other hands. If when certain persons are to be proposed their names were sent, say four times a year, to the members of the Association, when the case comes on we should be able to vote upon it. Dr. Stack has requested me to say he agreed with me as far as I went. I never heard of these gentlemen who are on, and probably if I had known they were on, I should have voted for them. I think our members should not be left in the dark. If we agree that for the future the names of all the members who are eligible are communicated to the members generally, we shall have the power of black-balling.

The CHAIRMAN: Do you mean that whenever a paper is brought up, properly signed by a candidate for election, the name of that candidate should be communicated to each member of the Representative Board, or do you mean that it should be sent to each of the 600 members.

Mr. SPENCE BATE: To the 600 members. It might be done twice a year. It is a mere matter of secretarial work. You do not have elections every day. You need not elect them except at just one meeting.

The CHAIRMAN: At every meeting of the Representative Board, and at Business Committees too, elections take place.

Mr. SPENCE BATE: Then you must always be electing without the members knowing anything about it. I am not contravening a bye-law; I am only asking you for a little more work to prevent this friction. If all the members of the Association had been aware of who were coming up, they could have exercised their judgment on the matter.

The CHAIRMAN : How are the 600 members to vote ? By what machinery will you get the information ? Then what would be the use of the Representative Board which is at present authorized to transact the business of the Association, to elect members itself or by committee.

Mr. MACLEOD : I have much pleasure in rising to move the previous question. I think the object with which Mr. Blandy seeks to alter or improve the bye-law by the insertion of the clause we are now considering, is fully met for all practical purposes by the bye-law as it at present stands. With regard to the amendment proposed by Mr. Bate, I think that is altogether out of the question at this moment. It comes in more properly in regard to a future motion by Mr. Blandy. What we have to consider now is, shall we accept the legal registration as it now stands as the eligible qualification for membership of the Association. That is the single point before us. I think we cannot go in the face of the law which has given us a recognised position, and has at the outset dictated to us, whether we like it or not, who shall be recognised as members of the dental profession ; it lies with us at all times to say whether the names in this list or any portion of them shall become members of the Association, and it will simply depend upon the information placed before the Representative Board whether a particular person shall be elected or not. But to have such a restrictive clause, that the gentleman shall not be a member of the Association unless he confines himself solely to the practice of dentistry, is a piece of unintentional tyranny. The legal dentists will ultimately die out and there will be none except those who have undergone the necessary curriculum and have satisfied the Board of Examiners. We can quite understand that there may be cases when it is absolutely necessary for them to eke out a decent livelihood that they should undertake other duties which will bring them pecuniary remuneration. Under those circumstances our object should be to get eligible men and not ostracise them afterwards, simply because they have undertaken some other calling, which will increase their income and make it possible for them to live not merely as citizens, but to keep up their position as educated gentlemen.

Dr. WAITE : It appears to me that the issue before us is one of a grave character. It is not a mere matter of detail, it is a question of the general principle upon which this Association is to proceed. It refers to what is to be our policy for the future.

Now there are two fundamental principles or propositions with which I think most of us will agree. The first is that the British Dental Association has been established for the benefit of the entire dental profession. That as I understand the case was the prime purpose for which it was called into existence, the elevation and purification of the whole body, not the advantage of any section or class, but the uplifting of all who profess and call themselves dentists. There is another principle which to my mind is equally fundamental, namely, that the main purpose for the present of our Association is to maintain the provisions of the Dentists Act. What is the spirit of the Dentists Act? It is notorious that that Act was only obtained by means of large concessions. Whatever our personal or private feelings may be, the fact still remains, that we could not have had an Act at all unless those concessions had been made. The whole text of the Dentists Act is comprehension, not exclusion, and I want to ask those gentlemen who wish to put this limit, how they propose to reconcile the maintenance of the provisions of the Dentists Act with this restriction which is a violation of its spirit. So long as the Association requires to have administrative functions it is imperative that we should abide by the lines indicated in the Act. From those two fundamental provisions we might deduce another, that it is our business to bring the influence of the Association to bear on every individual member of the profession. The greater the number of practising dentists whom we can induce to subscribe to our bye-laws the better for every one of us. We have nothing to fear from men who will act in accordance with those bye-laws. The question, therefore, before the meeting, it seems to me, is not one of detail, but rather whether we shall adopt a policy of exclusion and violate the fundamental principles of our existence, or whether we shall pledge ourselves to a generous policy, obedient to our constitution, and welcome into our ranks every reputable practitioner who will conform to our rules. It is admitted we must have certain limitations, but we have enough limitations already. Multiplication of restrictions will in this, as in other cases, only cause multiplication of vexation. The whole spirit with which we have to proceed is a spirit of conciliation not exclusion, not restriction. I think it was one of the earlier presidents of the United States, but I am not quite sure, who laid down a maxim something like this: "It is the duty of a Government so to make its laws that it will be easy for men to do right

and difficult for them to do wrong." I should like our executive to appropriate that maxim and it would read like this: "It is the business of our Executive to make it easy for dentists to become members of the Association and difficult for any reputable practitioner to assign a good reason for stopping outside." In my own heart I would adopt a still older maxim and let the British Dental Association become all things to all dentists, if by any means it may elevate and educate and ennoble some out of the sordid condition into which they have fallen. I beg you not to sanction any alteration of the bye-laws which will have the effect of imposing further restriction upon the terms of membership of the British Dental Association.

MR. SPENCE BATE: I thought the Association should do their own work without altering the bye-laws. According to what has just been said, members will be admitted into the Association simply because they are on the Register. Now there are many men on the register whom I think we ought not to pass into the Association. If that be the case, I think we ought to have the power of veto. I never heard of those gentlemen being elected until I came here, except that it was broadly brought before our Western Branch that there was a determination for the sake of obtaining an increased income, to put chemists and druggists into the Association. That was the feeling abroad in the Western Branch, and consequently I came here in very great ignorance. I thought if we could come to a resolution by which each man could exercise his own judgment without altering the bye-laws, it would be a good thing, and if I can get a seconder I shall propose that amendment.

MR. TURNER: I would ask Mr. Spence Bate for a little information. He has himself been president of a Branch of the Association, and he has been president of the Association, I think; he has helped to transact the business of the Western Branch for a number of years and has, consequently, elected a large number of members to the Association. Now how does he intend to dispose of the election by branches?

MR. DENNANT: I would submit that Mr. Spence Bate's motion had better come later on, when the question of the publication in the Journal is brought forward.

MR. SPENCE BATE: I am quite willing to abide by the decision of the Chairman, whether it shall come on now or at a later time.

MR. BLANDY: Mr. Macleod spoke about the Register and the

Association being almost synonymous in terms—that we, as an Association, ought to admit all those on the Register who wish to be in the Association, and trust to chance that in its own good time they will die out. That is but a poor consolation for us. We have some little interest in our own life and surroundings, and we do not altogether live for our children. Of course, these men will die, but so will we. It is a miserable thing to think so, but such is the fact. But shall we be content to admit these chemists and druggists, who choose to stick out in their windows “Teeth extracted,” and “Painless dentistry.”

Mr. HUTCHINSON : Mr. Macleod never said we should admit all the names on the Dental Register, but only those who submit to the bye-laws.

Mr. MACLEOD : Mr. Blandy says the chemists and druggists on the Register will die out and so will we. Now I beg to say that Mr. Blandy and those represented by him will never die out, they will continue when the chemists are snuffed out, and they will have to be L.D.S. before they can possibly get in. Mr. Blandy will never die.

Mr. BLANDY : I wish I could have a guarantee from Mr. Macleod that that will be the case. It is a very plausible suggestion, but it does not bear the light of argument. I think no Life Assurance office would let me off on account of Mr. Macleod's assurance that I shall never die. It comes to this. No man could have put it better than Dr. Waite from his side of the question, and my only object is to have it thoroughly discussed. His argument is that we should be extremely liberal and include all men that we can catch in this net. It is not the practice in other societies. If I as an L.D.S. seek to get into a medical society or a surgical society—

Dr. WAITE : This is not a scientific society.

Mr. BLANDY : If I seek to get into the Royal Academy, I am not permitted to do so until I prove myself worthy, and more than worthy. These men whom I seek to exclude are men who have taken up a trade like they would take up magnetic belts, and are we as an Association of *bonâ fide* dentists trained in this work, to associate with this class of men. I do not wish to occupy your time further, I think many of you have made up your minds about it ; I will now leave it to the vote.

The CHAIRMAN : The amendment proposed by Mr. Macleod and seconded by Dr. Waite, is “That bye-law No. 1 remain as it is.”

The amendment was put to the meeting and carried, only two hands being held up against it.

MR. BLANDY: Bye-law No. 1 says: "A person who is registered in the Dentists' Register shall be eligible for election as a member of the Association, provided that he be of good character; that he does not conduct his practice by means of the exhibition of dental specimens, appliances, or apparatus in an open shop, or in a window, or in a show case exposed to public inspection; or by means of public advertisements, or circulars describing modes of practice, or patented, or secret processes, or by the publication of his scale of professional charges." Our bye-law in the Midland Branch and in the Central Branch has before the end of the clause "Or by the publication of his scale of professional charges," the words "professional qualifications." I, in this amendment wish to assimilate the practice of the Association to that of the Branch, so that a man may not insert in a newspaper his advertisement as to where he is and what he is going to do, and put at the end of his name L.D.S. It has been suggested that I have objected to a man putting L.D.S. on his door-plate. I do not know who set this about but I heard of it in Birmingham, and it has been asked of me several times since I have been here. I have no such idea. My notion and intention by this clause was to prohibit a gentleman publishing in a newspaper where letters might be sent to him. The clause itself is rather ambiguous. It says distinctly "he shall not publish any public advertisement" and then it says "He shall not publish his scale of professional charges." Of course the greater includes the less, but I seek to assimilate our practice to that of the branch. We have refused a man. He is a perfectly honest straightforward man: there is nothing against him; he published an advertisement containing the words "Dental Surgeon, L.D.S.," his advertisement merely relating to attendance at his own house every day of the week—not that he attends other towns. He would not withdraw this advertisement, he said it would not pay him to do so and he would rather not join the Society, and we refused to admit him. He applied to the Representative Board and was at once admitted. We are of course very much hurt in the Midland Branch, and we feel considerably slighted, sat upon and snubbed. That is the reason I have introduced this, merely to assimilate the practice of the Representative Board to that of the branch.

MR. SPENCE BATE: Every surgeon puts his name on the door with his qualification.

Dr. WAITE : I would ask Mr. Blandy what he means by assimilating the law of the Association to the law of the branches : to what branch does he refer ?

Mr. BLANDY : To the second bye-law of the Midland Branch.

The CHAIRMAN : We cannot discuss the proposal merely on the ground of its being a law of the Branch.

Dr. WAITE : I should like to point out very briefly that the bye-law to which Mr. Blandy refers has nothing to do with members. It was a bye-law constructed especially to deal with the question of associates, and the introduction of the phrase "his professional qualification" relates to the admission of an associate and not to the admission of a member.

Mr. BLANDY : I think that is a very misleading statement, because the same thing that applies to an associate should surely apply to a member.

Dr. CUNNINGHAM : I think Mr. Blandy is right to assimilate the bye-laws of the Branch and the bye-laws of the Association, but the proper way to do that is to alter the bye-laws of the Branch. Mr. Blandy has invented a new meaning of the word "publication," I have endeavoured to find out what his definition was. I may be wrong, but from his speech publication consists in putting an advertisement in the papers with your name and address and the letters after it. But publication in the ordinary term is very difficult of definition. If a man had a book and announced his authorship with his title as is usually done, it would be an advertisement in the papers, and it would be condemned by Mr. Blandy's proposition. It is a question whether distributing your cards with your titles after your name would not be publication. We have had this question brought up before us in other branches, and we have endeavoured to assimilate our bye-laws to those of the Association. We agree with Mr. Blandy that there should be an assimilation of the bye-laws between the parent and the branches, but that assimilation should be in the direction of altering the branch laws, and not altering those of the parent society. I move a direct negative to Mr. Blandy's proposition.

Mr. COXON : If I am not out of order I should like to second Dr. Cunningham's motion. At the present time I do not advertise except "Stephen A. Coxon, Dental Surgeon, 4, York Row, Wisbech." In a wide district like mine where we have patients for twenty miles round, they do not come to a small town of

10,000 inhabitants, except on a market day when a great portion of our practice is carried on, and it is very annoying for us to find men advertising in a most disreputable manner. Mr. Blandy's idea would cut me out altogether. I have no desire to advertise, but before I entered this Association I sent up a copy of my advertisement, and explained the full meaning of it to both the Branch and the Association. They said I was quite right. I thoroughly go against Mr. Blandy's idea that nothing should be advertised. I wish to do nothing that is unprofessional, and if it was explained to me that I was doing something unprofessional I would not do it. I would always be ruled by this parent Association.

Mr. BLANDY: Do you put L.D.S. after your name?

Mr. COXON: I do not; because I do not possess that qualification.

Mr. BLANDY: Then my resolution does not apply to you.

Mr. TURNER: Dr. Cunningham's resolution has been proposed and seconded. I would beg to remind the members of the origin of this Association, and the difficulties we had to get members together. I think if you pass this resolution, the probabilities are you may lose—shall I say half of your members by the force of the law. Dr. Waite referred to a remark made by a President of the United States, and it reminded me, although rather in a distant way, of an anecdote of a negro in the United States. He was a mule driver, and if any of you have been in countries where they use those animals, you know that they are very subject to having fights with their drivers. The negro whipped the mule unmercifully, but the mule only replied by trying to bite and kick him. He looked at it and he said, "Gettin' grand, are you? 'specks you forgets your father was a jackass." Now I do not think that we in our pride of progress should forget our origin, nor ought we to forget the long tail that we carry behind us. If we cut ourselves off by additional laws, I think we shall only do ourselves harm. All laws are more or less a nuisance; you can never make laws that will work without friction, and the more laws you have the more friction there is, so that the idea of enacting fresh laws to avoid friction is, to my mind, a very mistaken one. It seems to me that you have a Representative Board, which you elect because you have confidence in it; if you have Councils for your Branches, you elect the members of those Councils, because you have confidence in them, and if you are

going to change the whole system into universal suffrage and send out the names of members to all who vote, and make further restrictions, no one will be able to administer the laws you make, and the Representative Board will become useless from inability to carry out your instructions. I therefore support most decidedly the amendment proposed by Dr. Cunningham.

The CHAIRMAN then put the Amendment: "That the bye-law No. 1, remain as it stands," and it was carried almost unanimously.

Mr. BLANDY: I feel that the two next Resolutions are infinitely more difficult and painful for you to consider than those that have preceded them. I want to keep myself entirely free from any suspicion of coming into conflict with our Representative Board, and to keep all the members free from that suspicion. The next business has arisen from the dissimilarity of this bye-law which we have been discussing, with the bye-law of the branch. It has arisen through a misunderstanding, and I see that we must alter ours in our Branch, as Dr. Cunningham has suggested, so as to assimilate it with that of the parent Association. My desire merely is that we shall understand one another, and not have this friction. This other matter is a very serious and delicate one. "That the name of a certain gentleman be expunged from the list of members of the B.D.A." The next is a corollary to that, and that is, "That the Representative Board do not elect persons who have been refused election by a branch."

The CHAIRMAN: I rise to order. This meeting is not competent to initiate the expulsion of a member from the Association. The rule is, that any motion of that kind shall be initiated in the Representative Board, and if two-thirds of the Representative Board vote in favour of such expulsion, the vote shall be confirmed at the Annual Meeting; but the Annual Meeting itself has no power to initiate the expulsion of a member. If you will look at the bye-laws, I think you will find that to be the case. There is a special bye-law in reference to the matter of expulsion.

Mr. BLANDY: I am aware of that. I discovered it after I had given in my motion; but I thought as this motion somewhat impugned the action of the Representative Board, they would not raise that question. If Mr. Canton had communicated that to me, I would not have had it put in print. I have nothing against the moral or professional qualifications of this man. I wrote to him the other day telling him that I was going to bring forward this

Resolution, and I have a letter from him saying that he will not discontinue his advertisement, and would sooner leave the Association. He is perfectly honest and straightforward about it. It is only because we in our Council unanimously—

Dr. WAITE : No.

Mr. BLANDY : It was all but unanimously.

Mr. DENNANT : I rise to a point of order. I do submit that it would be a most unfortunate precedent to discuss the character of a private individual before a public meeting of our profession. It might possibly find its way into public prints. It is obviously a much better plan to bring all such private matters before the Representative Board, whose duty it is to enquire into them.

Mr. BLANDY : I am not discussing his character at all. I have nothing to say about his character.

The CHAIRMAN : You will meet with the views of the meeting by adhering to the order in which the resolutions have been arranged by the Business Committee.

Mr. BLANDY : Then I shall entirely withdraw that resolution as to the expulsion of this gentleman. Now we will go on to this resolution "That the Representative Board do not elect persons who have been refused election by a branch." I hope to be found in order at least in doing that. This gentleman, who was refused by us, was elected at the very next meeting of the Representative Board, and therefore you cannot but see that that must cause a great deal of friction and pain in our minds.

The CHAIRMAN : Will you explain whether you refused his election into the Association, or whether the refusal had reference only to election into that Branch.

Mr. BLANDY : Both. We refused to elect him into the Association and into the Branch too. We held a specially adjourned meeting for the consideration of his case at which he could be present and tell us about it. He had an interview with the whole Council, and I asked him myself whether he had his advertisement with him. He said "No," but he could write it out, which he accordingly did.

The CHAIRMAN : It is enough if you will state to us that you proposed this amendment, because a man has been elected whom you rejected.

Dr. WAITE : I object to the statement that this individual was refused or rejected by the Branch. Mr. Blandy said he was unanimously rejected. It is not correct, no ballot was taken on

his name, and it is not competent for a member to say a man has been rejected when no vote has been taken.

Dr. CUNNINGHAM : I appeal to Mr. Blandy whether under the circumstances he had not better withdraw the other two resolutions. I think he will best display that feeling which I am sure we all credit him with, namely, a desire for the Association's good, by withdrawing the motions, and more especially the second, "That gentlemen proposed for election have their names published in the British Dental Association Journal," because I believe the expression of opinion that has taken place, and the fact that this motion has appeared in this programme will be quite sufficient. I heard quite independently of this resolution, before I saw it, that there was some desire on the part of the members of the Representative Board to see how some such scheme could be worked, and I think we may safely leave it to the Representative Board to do what lies in their power to meet the views of the members.

Mr. CHAS. TOMES : I am totally out of sympathy with Mr. Blandy, with regard to every one of his resolutions except this one. I think it very undesirable that that sort of over-ruling of one body by another should take place frequently. It leads to a great deal of friction and ill-feeling, but on the other hand, I do not think he could logically expect that the branch should over-rule the action of the central body, which should be at liberty to do what it chooses. I am in sympathy with him so far, that it is very undesirable this should often happen. I have been talking to a number of members of the Association, with a view to devising some scheme by which such a thing might, as a rule, be avoided. I have very little doubt that the Representative Board could devise some scheme by which, for instance, the Secretaries of the Branch might receive notice of an ensuing election, and then if they had any objection to raise they could do so. I am not prepared to bring forward any scheme on the spur of the moment, a proceeding which would, I think, perhaps be mischievous ; but I will pledge myself personally, I cannot pledge anyone else, to use my utmost endeavours on the Representative Board to bring about a state of things, so that people shall not be elected by the Representative Board without the possibility of objection being raised by the people resident in the district.

Mr. TURNER : It seems to me this discussion is taking a wide range, and the Representative Board and its doings have been so

frequently brought before the meeting that I cannot any longer remain silent. The majority of the members elected recently have been elected by the Councils of the Branches themselves. We elect comparatively few compared to the numbers elected by the Branches. Again, when a name is sent up for election, from a district which has a branch, we communicate with the Secretary of that district.

A voice : Not always, I think.

Mr. TURNER : Certainly not, if we know without. Surely you can give us a little credit ; but if we have reason to suspect anything, then we do send. We have found out many things that we have had to stop. We have papers filled up by dentists who are not Members of the Association, and our Secretary looks back through the list of members for any names which are not familiar. We do our utmost to keep the election as it ought to be, and in reference to this same man who has been spoken of to-day, two Members of the Representative Board went down to Bacup and interviewed him, and we were able to speak for him. To go down to Lancashire in mid-winter to look after the affairs of the Association surely shows that the Representative Board is not careless in the matter of these elections. We cannot publish what we do, and if we had to, I should not be a member of the Board, and I should not expect a gentleman to belong to the Representative Board.

Mr. WORMALD : I am quite sure Mr. Blandy had the impression that the gentleman was rejected, but he was not, and had he taken the information that was given to him when he left the room, I believe he would have been elected by the Branch ; so that it was quite a misunderstanding, I believe, on Mr. Blandy's part.

Mr. MOORE : I was going to say there might be in some district branches a personal prejudice against an individual, which would require to be very much guarded against, and the Central Board ought therefore to have a certain power. There might be circumstances crop up in connection with a Central Association, that might render it desirable to receive an individual, even though a branch refused him.

Mr. BLANDY : I think after what Mr. Charles Tomes has said that means will be taken by the Representative Board—because after all we are entirely in their hands—that this friction shall not occur again, I cannot do less than withdraw the motion. I am

exceedingly sorry to have ever had to propose it, but we were placed in a great dilemma, and I thought by having it thoroughly discussed we should the better understand one another. The other motion is withdrawn, and I see great difficulty as to publishing the names of candidates, not in the Journal, but according to Mr. Spence Bate's suggestion, that the names should be sent round to the whole of the 600 members in a private circular. I do not see that that would be practicable.

The CHAIRMAN: I will now take upon myself to thank Mr. Blandy for the manner in which he has brought these questions before us, for the honourable way in which he has accepted the rulings of the chair, and for the readiness with which he has withdrawn certain of his motions in deference to the wish of the meeting that they should be withdrawn.

Dr. WAITE: We owe a debt of gratitude to our esteemed Chairman for his exceeding care and fairness in presiding over the business, as well as for the intimate knowledge and ability he brings to bear on every question connected with the Association. I beg to move a vote of cordial thanks to Sir John Tomes.

Mr. BLANDY: I beg to second that with all my heart. I feel we owe to Sir John Tomes an everlasting debt of gratitude. He has been the pioneer and leader in our dental reform, and it was only to help him, as a younger member, in some little way, that I have tried to do somewhat more, perhaps, than I was able to do.

The motion was agreed to.

The CHAIRMAN: Allow me to thank you most heartily for your generous approval of my conduct in presiding over the meeting, and for the good opinion you have expressed, and to hope that if in the future I should be called upon to hold a like position, I may again secure your approval and merit your good feeling.

On Thursday morning, at half-past eleven o'clock, a.m., after the adjournment of the business meeting, visitors were admitted.

The CHAIRMAN then rose and said:—It now becomes my duty to address you in the place of Mr. White. For should the President from any cause be unable to attend, it becomes the duty of the President of the Representative Board to take the chair at a general meeting of the Association.

The absence of Mr. White from continued indisposition will, I

am sure, be a matter of very deep regret to all of us, and the more so when we call to mind the active and important part he took in the conduct of our annual meeting held this time last year at Cambridge. On that occasion his mental energy and robust appearance gave promise of many coming years of health and vigour. Let us hope then, that before another annual meeting comes round, he will be restored to his former health and strength, and we may be sure that when his recovery is made good, he will be again in our midst, rendering as heretofore an ever ready and helpful hand in the promotion of all objects worthy of the attention of the Association, and in council advocating the cause of moderation, consistency and common sense. In the remarks I have to make upon the events of the past year, I will endeavour to take the position of your President, and bring to your notice such occurrences, and give expression to such opinions, as he would if present approve.

The papers read at the last meeting have been published in our Transactions, and will speak for themselves, but attention may be called to a successful prosecution, in which the defendant rested his claim to exemption from the registration clause of the Dentists Act, on the ground that he held a foreign dental diploma, and that he was not an ordinary resident in the United Kingdom. This plea led to a definition of what in law constituted ordinary residence. The counsel for the prosecution stated that the moment an unregistered person, whether a British subject or an alien, holds himself out to obtain patients in this country, he becomes liable to conviction under the Dentists Act. In other words, the act of endeavouring to obtain patients carries with it the conditions of, and, indeed, constitutes, ordinary residence in the meaning of the Act. This definition was accepted by the opposing counsel and by the bench, and we may regard the conviction as determining the conditions which, in the eye of the law, constitutes ordinary residence, as mentioned in section 4 of the Dentists Act.

On a former occasion a prosecution was instituted in order to test the legal signification of the initial letters L.D.S. of licentiate in dental surgery, and with the result that for a dentist to use them in connection with his name constituted an offence under the Act, unless at the time of use he did possess the qualification itself, for which they are the recognised contraction or sign. In each case the proceedings were rather costly to the Association,

but the determination of the exact legal signification of phrases of an Act is necessary to its rightful working, and the results we obtained are, from that point of view, quite worth their cost. Passing from legal proceedings necessary to administration, we come to a subject of great interest as regards the future working of the Act. I allude to the passing of the Medical Act, 1886, a section in which is devoted to the amendment of the Dentists Act.

As a condition of the passing of the latter, certain clauses were introduced by the then Government, which in practice proved to be both costly and cumbersome, and went far to diminish the value, if not to some extent render useless, the penal sections of the Act. These, at the instance of this Association, have been removed. The Act requires that a private person, or any Association other than a Medical Authority, a Branch Council, or the Medical Council itself, shall obtain the consent of the Medical Council or one of its branches before entering on a prosecution. Now, this need of assent proved a greater obstruction to the working of the Act than at first sight would seem probable. The Medical Council usually sits but once a year, and the branches very seldom. This of itself imposed great delay, amounting in some cases to little short of a year. Then the charge upon the diminishing dental fund was a matter of some consideration. Sixteen shillings and threepence is the cost per minute of the attention to dental, or indeed to any other business of the Medical Council in session. So that if the assent of the Council to a prosecution occupies only five minutes, the dental fund will suffer to the extent of over four pounds. To this must be added the cost of the time occupied by the Executive Committee upon the question, and the cost of printing. Section 26, paragraph 2, repeals the consent provision of section 4 of the Dentists Act, 1878, and says, "a prosecution for any such offence may be instituted by a private person," and in the definitions given in section 27 of the Medical Act, is the following: the word "person" includes a body of persons, corporate or not corporate.

Reference has been made to the determination in a court of justice of the signification of the letters L.D.S., when appended to a name. Further argument upon this question of signification is disposed of by the first paragraph of section 26 of the Medical Act, 1886, in the following words: "It is hereby declared that the words 'title, addition, or description,' where used in the

Dentists Act, 1878, include any title, addition to a name, designation, or description, whether expressed in words or by letters, or partly in one way and partly in the other." This paragraph must be read as a continuation of paragraph 2 of section 3 of the Dentists Act, whereby the latter is rendered complete, and so far as can be seen, free from any legal obscurity. The prohibition of the use of dental qualifications, however expressed by unregistered persons, is rendered absolute, and it may, perhaps, be found in practice that the prohibition is more far-reaching than a casual reading of the amended clause would suggest.

Section 5 of the Dentists Act says that "a person registered under this Act shall be entitled to practise dentistry or dental surgery in any part of Her Majesty's dominions." The power of the legislature by an oversight in the drafting of the Act, has been therein exceeded, and an amendment rendered necessary. This is effected in paragraph 3 of section 26 of the Medical Act, 1886, in the following words: "Notwithstanding anything in section 5 of the Dentists Act, 1878, the rights of any person registered under the Dentists Act, 1878, to practise dentistry or dental surgery in any part of Her Majesty's dominions, other than the United Kingdom, shall be subject to any local law in force in that part." In other words, registration here does not entitle a person to practise in any of our colonies where a local law prohibits practice on the ground of an unrecognised British qualification.

The 4th paragraph of the 26th section of the Medical Act, 1886, empowers the Privy Council to call into action the dormant 28th section of the Dentists Act, 1878, the main purpose of which is the limitation of the number of dental licensing bodies. Upon this section we need not dwell.

It remains for me to notice only one other section, viz., 23 of the Medical Act, 1886. Hitherto we have had to summon the Medical Registrar on the occasion of a prosecution, to testify to the consent of the Medical Council to the prosecution, and as to any registration which has taken place in the interval of the annual publication of the Register. For the future the attendance of the Registrar is made unnecessary by the following provision in section 23:—"The following copies of any orders made in pursuance of the Medical Act, or this Act, or the Dentists Act, shall be evidence; that is to say (1), any copy purporting to be printed by the Queen's printer, or by any other printer, in pursuance of an

authority given by the General Council. (2) Any copy of an order certified to be a true copy by the Registrar of the General Council, or by any other person appointed by the General Council, either in addition to or in exclusion of the Registrar, to certify to such orders."

And now we have come to the end of the list of amendments of our Act. They may seem to some of us but few in number, inadequate and of small account. By those who have busied themselves in the administration of the Act, a widely different view will be held. To them it will appear that the Act has been greatly strengthened, and its powers rendered comparatively easy of application. But it must be constantly borne in mind that with increased power comes increased responsibility. If we have in the past been guarded in the use of the penal clauses, we must be still more guarded in the future. The sense of right, of fairness, of liberality, must in our counsels prevail over possible legal successes. The goadings of need, the despair of lost opportunities, the misdirection of ignorant and prejudiced advisers, must all be taken into account before proceedings are instituted.

We may well distrust our individual power of observing strict impartiality, and on this account it is very undesirable that a prosecution should be undertaken by one practitioner against another, although justice may be on his side; for personal dislike, envy, or a sense of personal wrong will most certainly warp the judgment, and lead us into error. In the only instance in which a dental prosecution has failed, the proceeding was instituted by a private individual. The case was one which, had it been looked into by a public body, would not have been proceeded upon, and in which the magistrate considered the prosecutor to have been influenced by professional jealousy. It is the business of a judge to regard with suspicion prosecutions instituted by private persons of similar calling, and the possibility of the inspiring motive being professional jealousy will not escape his observation.

It has been said that the Act imposes upon the practitioner a costly education, general and professional, and that persons who have submitted to these conditions should be protected from the competition of those whose education has been less perfect and less costly. I should myself prefer to say that the Act protects parents and guardians from the temptation of imperfectly educating those of their dependants who select to follow our calling by enforcing a fitting education in kind and

degree, and that it protects young persons from the errors of a green and imperfect judgment, and above all from idleness, by enforcing the acquisition of a competent knowledge of their profession, thereby ensuring to them the incalculable blessing of power to rightfully fulfil the obligations they accept in treating those who receive their professional services. To me it seems that the practitioner who has been educated under the Dentists Act, owes to it a debt of the deepest gratitude, for its educational requirements have placed him in a position to practise with justifiable confidence, the offspring of knowledge and skill, and to surpass in usefulness those less perfectly instructed. Surely this of itself is a very ample reward for the cost and trouble of a systematic education and of registration.

Persons who with knowledge infringe the provision of the Act should undoubtedly be prosecuted, not so much for the protection of those who are protected by the Act in the superior education it has caused them to acquire—and by registration, but for the protection of the public, who are constantly imposed upon by false statements as to qualifications, knowledge and ability, and deceived by promises that can not be redeemed by those who make them.

The considerations I have endeavoured to set forth, if correct will, I think, fully justify my opinion, that a prosecution under the Act should not, unless the attendant circumstances are very exceptional, be instituted by a private person. I put forward this opinion on behalf of the profession at large, the credit of which would be greatly injured in public esteem by the frequent spectacle of one practitioner prosecuting another. Such proceedings would, in most cases, be set down as undertaken, not in the public interest, but for the furtherance of private aims and ends, and in this regard the injury to the profession would be as nothing when compared with the mischief which would be liable to fall upon the private prosecutor, whose motive became the subject of unfavourable allegations.

The powers of the Act, to my judgment, if properly administered, are ample and sufficient for educational purposes, and for the regulation of the profession, and it is the business of this Association to aid by all legitimate means the efforts of other authoritative bodies in rendering effective such administration. In no case will its efforts be more useful than in presiding over the application of the penal sections relating to the unregistered.

Mr. White, whose place I am endeavouring to fill, in his inaugural address of kindly regard for the success of our younger brethren, brought to our notice the difficulties that beset their path at the outset of practice. The President of our Southern branch, Mr. Alderman Rymer, takes up the same theme, and, admitting the difficulties detailed by Mr. White, offers well-grounded encouragement to those who are entering upon their professional career. But there are difficulties lying nearer home than those referred to by our two distinguished Presidents. I may perhaps be allowed to take a page out of my own professional course of life, in illustration of an early and common stumbling block to success.

A physician of great eminence and a sincere friend said to me on my commencing practice: "I shall not send you any patients for some time to come, for if I did you would not keep them; they would leave you with an unfavourable impression on their minds, and your future success might be retarded by my injudicious efforts to render you early service. You have yet to supplement, and to some extent unlearn, your hospital methods and manners; you have hitherto been engaged in treating cases and have paid little or no regard to the personality of the patient. If you would succeed in private practice you must devote your attention not only to the case but to the personality of your patients; you must consider with attentive kindness their feelings, prejudices and statements, exaggerated and whimsical though they may be, not in prejudice, but as a help to the successful treatment of their cases. You must make an effort to place yourself in real, not pretended, sympathy with their feelings and wishes, then armed with superior knowledge and skill, you will be in a position to render them great service, for which they will in return be not only grateful, but will remain your friends." I did my best to merit confidence, and my friend kept his word; patients he sent to me, sought as occasion required, my aid throughout the whole of my professional career, they and their children, and in some cases, their grandchildren.

I am not advocating the exhibition of a false and pretentious manner, but the sincere cultivation of kindly sympathetic feeling towards those who become patients. Feelings which, if possessed, will show themselves unconsciously in a thousand ways, in concordance with the character of the possessor. If the advice given by Mr. White and Mr. Rymer, with the counsel given to me, and which I am endeavouring to transmit, be truly followed by the

young practitioner, he will soon be able to disregard the reputed success of the public advertiser, whose ill-earned gains, if counted by their cost, need not be a subject of envy. In my experience the true cause of want of professional success, if rightly sought, will, in the majority of cases, be found to lie not at the door of the public, but within the threshold of the practitioner. It will be found that he has failed to appreciate and acquire that true professional feeling which Mr. Turner has so well described in his admirable address to the students of the Dental Hospital of London on distributing the prizes, and which is published in the August number of our Journal.

So far as can be foreseen the passing of the Medical Act (1886) has brought to a close, for a generation to come, legislation on dental matters. It now remains for practitioners to develop under the existing laws, dental knowledge and skill to the highest attainable degree, and in bearing the burden thus imposed, I can no longer take an active part.

Speaking for myself certainly, and perhaps for those of like age to myself, I think I may venture to say that in the near future our duty lies in giving encouragement and counsel to those who are in the midst of life and personal activity, leaving to them the field of original research and of systematic teaching, for the cultivation of which we are no longer fitted, but which in times now passed offered to us inspiring hope and active enjoyment. Each term of life has its allotted duties, and it is well for ourselves and those with whom we are associated, when we recognise and rightly discharge them. We should assist, we may not hinder, the development of our useful calling.

Let me thank you for the patience with which you have listened to my somewhat long, and I fear uninteresting, though I hope not altogether useless, address.

It now becomes my duty to vacate the post which Mr. White, had he been here, would have filled. But before I do so I must ask you to pass a vote of sympathy and of thanks to your absent President.

The vote was carried by acclamation.

Mr. UNDERWOOD: Gentlemen—I wish I might say "*Ladies and Gentlemen*," but that is out of my power—I will not detain you many minutes. You have heard the very interesting and elaborate address of the President of the Representative Board, in which he has shown you what great things were achieved by the

Act of 1878, and the advantages that have accrued to our profession by the Amended Medical Act of 1886; but you have not heard from his lips how great a share of the labours that have so happily been crowned by success have fallen to his lot. I may say that his life has been spent in the interests of the profession; that is far and widely known; but you cannot all be aware, as those are who have worked more closely and intimately with him, what an expenditure of mental exertion and valuable time, and what an absolute forgetfulness of self have distinguished him throughout his long endeavours to bring about the present happy state of affairs. I am sure you will all recognise the debt you owe him; he has had many things to cheer him in his life, let us make, if possible, his cup of happiness overflow to-day, by giving him a most hearty vote of thanks for all he has done for us.

The proposal was carried by loud and prolonged applause.

Sir EDWIN SAUNDERS then took the chair as President, and delivered the following address:—

GENTLEMEN, Members of the British Dental Association:—I desire in the first place to express my thanks for the honour you have done me in electing me your President on this interesting and remarkable occasion, on which from the uttermost parts of the earth, her children have flocked to this little northern island to pay their homage and to attest their loyalty to our Empress-Queen. And although there cannot but be a shade of sadness over our proceedings, occasioned by the lamented absence of my predecessor, Mr. White, through serious and protracted illness, yet our, and his, consolation will be, that his place has been so ably filled by our esteemed friend Sir John Tomes, whose improved health, we are glad to know, has enabled him to volunteer a ready response to the demands on his time and attention, which have thus unexpectedly arisen.

One of the earliest and not the least arduous of the duties with which the new President is confronted, is the delivery of an appropriate address, which, without being irrelevant, should not be devoted too exclusively to a consideration of the constitution and functions of the Association, and thus become a mere echo of addresses delivered on former similar occasions. On the other hand, it should not be alien to the pursuits and interests of the assembled members of the Association. With these feelings I desire to propitiate your indulgence in the few words I am about to address to you, if they differ, as they may do in some respects,

from what is customary, and from what you may be justly entitled to expect ; and in order to effect this propitiation, it is only right that you should be made aware of the reasons which seem to justify this departure from established usage. Two considerations especially conspired to render this innovation imperative. First, the Association having now entered on its second lustrum, the story of its birth and development, its constitution and functions, has, necessarily been so often the theme of my predecessors in this chair, and has been treated in so able and exhaustive a manner that it would now be tedious as a twice-told tale ; and, secondly, having observed at the last very successful and interesting meeting at Cambridge, that ladies were found to grace our proceedings with their animating and approving presence, without exhibiting (whatever they may have felt) symptoms of weariness, it seemed to me that it behoved us, at least, to endeavour to avoid being tedious, and to seek to escape for a time out of the narrow and strictly professional groove. In what I shall have to say, therefore, it will be my aim to take a somewhat broader view of the social changes that have happened since the institutions connected with our speciality came into existence, though without losing sight of their more immediate application to dental surgery ; and I am further emboldened to make this innovation upon established custom, by the favour with which the attempt to add an extra-professional department of art products, with a charitable object, was received at our last meeting. Thus it will not be necessary to dilate at any length on the advantages of an association, such as that to which it is our privilege to belong ; in the kindling of friendships among members of the same profession, where in its absence there might be groundless jealousies and misapprehensions, which disappear on a better and truer acquaintance with each other ; in the opportunity thus afforded of the diffusion of technical knowledge and of imparting many a valuable hint in practice, or of fertile suggestion in treatment, containing, it may be, the germ of some great improvement, but which might otherwise be consigned to the limbo of unfructified thought ; in fostering a feeling of brotherhood, and of generous and unstinting appreciation of what is good in others ; of a chivalrous *esprit de corps*, which would render anything mean or of the nature of detraction simply impossible ; of enforcing that higher ethical standard, in short, which makes each individual feel that the honour of the profession to which he belongs is for the moment in his charge, in a sense, and to an extent unintelligible where no such organization exists. Nor need

we do more than glance at the not unimportant uses of such associations, in protecting alike the public and the profession from the incursions of the unworthy and rapacious—the hirelings, not true shepherds—who, not being qualified to enter by the door of certificated competency, have contrived to climb over some other way; in providing a Journal as a means of communication between members of the profession in this country and throughout the world, thus introducing novel plans of treatment, or modifications of known processes or remedies, and so of determining their value and assigning them their true place, by subjecting them to the test of collective investigation, or, finally, by arranging these very agreeable annual meetings, at which, as at some intellectual tournament, the thinkers and workers of the profession who are not content to do simply what has been done, come into the arena, throw down the gauntlet, and challenge all comers in defence of their supposed new fact in biology, their new method of treatment, or their new theory of disease. Nor shall I occupy your time in pointing out the social aims of association as inducements to human intercourse, and the concomitant and incalculable blessings which flow from the friendship and the encouraging sympathy of our fellow men. For if there should still be any members of the profession who, after the report of the brilliant receptions at Plymouth, at Edinburgh, and at Cambridge, still hold aloof and decline to join the Association, I am quite sure they would not be amenable to any arguments that I could adduce, or any eloquence that I could command.

With this prefatory explanation, I may now address this audience in more courteous and correct fashion, as:—Ladies and Gentlemen: If we were suddenly called upon to designate the chief characteristic of the age in which we live, to express by a phrase or by a single word the great need of our common humanity at the present time—a need of which we are all more or less conscious, for the most part with a dim and dumb consciousness, but in regard to which aspirations are never wholly absent—we should, I think, exclaim with the dying Goethe, “Light, more light”; light physical and light intellectual. And it is not a little remarkable that this need in both kinds should have simultaneously found satisfaction; that the various and brilliant applications of electricity in aid of both sight and sound, the capturing and subjugating to our use and service the blinding and devastating lightning’s flash, should synchronise with an unparalleled

development of scientific research and with the multiplication and improvement of the means of wide diffusion of such results. The multiform and marvellous applications of this most subtle and fugitive of elements, must be regarded as among the grandest achievements of our time. Giving, under normal conditions and in a state of equilibrium, no evidence of its existence, and yet pervading all forms of matter, whether solid or gaseous, and under certain conditions profoundly affecting the state of the atmosphere by which we are surrounded, not seldom suddenly dealing death and destruction to animal and vegetable organisms, and ruin to the noblest monuments of human genius, it can yet be subordinated to the use and convenience of man. We are all familiar with the startling and instantaneous revelation to the eye, of minute objects, under a momentary flash of lightning, which would be unobserved in ordinary daylight, and with the vividness and truth with which all tints and shades of colour are reproduced. When to these two qualities the searching and pervading character of the light, and its absolute colourlessness, by which natural colours remain unchanged and unvitiated under its influence, another most valuable quality is added, that of its not requiring oxygen for its sustentation (in which it is most favourably distinguished from all other forms of artificial illumination), it will at once be seen how valuable an addition has been made to the forces of nature which have been brought under man's control. For with all other forms of light, as the result of combustion there must necessarily be contamination of the atmosphere, more or less disastrous to health and respiration, arising both from consumption of the oxygen in the air, and from noxious products of the processes of producing illumination. It was a happy thought, therefore, and a great step in science to seize the perfect light in the flash of lightning, to rob it of its terrors and to subjugate it to human control, to make it subservient to human convenience. It was another and by no means the least important of those applications of scientific discovery to the needs of daily life, of which this latter half of the nineteenth century has furnished so many and striking examples. But the idea was of slow birth and evolution. The unknown is always full of terrors, and superstitions die hard; and it was not till long after science had elucidated the true nature and origin of those atmospheric convulsions, which an exaggerated idea of the Divine superintendence of mundane affairs attributed to a manifestation of the anger and vengeance of

the Almighty for the nation's sins and shortcomings ; it was not till long after this idea was exploded, that it occurred to anyone to endeavour to render this wild and apparently untameable force, amenable to human service and convenience. Nor is it a mere figure of speech to speak of the electric spark and the lightning flash as identical in origin and nature ; for, as we all know, they are both due to the energy with which electricity seeks a return to equilibrium or a state of rest. That when, for example, two masses of cloud approach each other, which under ordinary conditions would each contain 100 parts of electricity, no effect would be produced ; but if, from whatever cause, one of these clouds should hold only 50 parts and the other 150 parts, being 50 parts in excess of the normal amount, the energy with which restitution would be made, when they come within what is called striking distance, and with a dry atmosphere, would give rise to the convulsion of nature known as a thunderstorm. And we all know that such convulsion of nature may be avoided by, if practicable, making a metallic communication between these masses of cloud, or between the cloud and the earth, by which the transference of this excess of electric force is facilitated, as is seen in the ordinary lightning-conductor, and thus the normal state is restored without the development of heat and light. If, however, the metallic rod or wire is insufficient to carry the amount of electricity, it will be burnt up in the process. By observing these conditions, storing up electricity in excess by batteries, or better still, by dynamo machines, actuated by steam or gas ; by providing iron or copper wires of sufficient conducting power to convey away this surplus electric force, and so again to establish the normal condition or equilibrium ; and by making breaks in this conducting wire and inserting in such breaks a thin thread of platinum, or other indestructible matter, which becomes incandescent by reason of its insufficient calibre and conducting power, a light of unequalled purity and intensity is obtained ; a light which is constantly spoken of as, and doubtless is destined to be, the light of the future ; but which at present, and probably for some time to come, from the cumbrous and costly process by which the electricity is obtained and accumulated, will have to be reckoned among the luxuries of social life. Meanwhile, its numerous advantages over other illuminants, as regards human health and comfort, are made evident by its use in theatres, halls, churches, and places of public resort. And it is no matter for surprise, that the intellectual

activity which is so characteristic of the present time, especially with regard to medical science, should have seized upon so valuable an ally in treatment or diagnosis. Accordingly, various novel and ingenious adaptations have from time to time been given to the profession, for throwing light into the cavities and dark corners of our organisation, by which the nature and site of lesions have been discriminated with more accuracy than was possible without such aid, and by which also operations could be performed and topical remedies applied with a nicety which had been hitherto unattainable. Such are the laryngoscope, in the treatment of throat disease, with adaptations for the ear and nose; and the lamps (of which some of the best, by Messrs. Ash and others, may be seen at the Dental Hospital), for illuminating the oral cavity. Of the other known uses of this youngest and fairest of Nature's forces—its therapeutic value in the treatment of neuroses and of paralysis; as an unerring and swift messenger for the conveyance of our wishes or our most tender thoughts, nay, even the cherished tone of voice to distant parts, and probably at no very remote date, as a means of transporting ourselves with safety and celerity—we may not now speak, for time passes, and if I would keep my promise not to be tedious, must touch but lightly, and only on the outer edge and fringe, as it were, of that other great and entrancing subject, light intellectual.

It is always difficult, not seldom impossible, to fix the date of a new departure, or of an original discovery; for whenever it bursts upon the world some one will be found ready to point out that the present promulgator was anticipated by some investigator of a former age, or that some faint adumbration of the supposed new idea may be detected in some long-forgotten archives. But we should not probably be far wrong in assigning to the first great International Exhibition of 1851, the occasion on which the first beams of that quickening and illuminating effulgence began to exercise an influence on the social life of this country. That great event would seem to have furnished the initial impulse towards progress which has continued to the present time, and has made itself felt in every department of the national life. Parliamentary representation has undergone modifications with the view of bringing it more into harmony with the growing intelligence of the people; the National Church has had infused into it a more sympathetic spirit both in its architecture and ceremonial; legal proceedings have been simplified; the army has been remodelled;

the wooden walls of old England have been replaced by turret ships and iron-clads, and the traditional British sailor has given place to the skilled engineer. In no department of the national polity is the spirit of progress more evident than in that which concerns itself with education, and much indeed has been accomplished in this direction with the view of satisfying the popular cry for more light. Not to speak of Board schools and State-education and the social revolution to which it is giving rise, or of the incursions into man's sphere of work by an epicene section of the fairer half of mankind, who are no longer satisfied with the empire of the home and of the heart, our whole educational system has been fundamentally modified and re-arranged. Science has at length conquered for itself a place and recognition in our seats of learning, and now divides the throne with literature and classic lore. All kinds of knowledge are made more accessible by improved methods of teaching, by the indefinite multiplication of popular lectures, or by handbooks and journals of an ever-teeming press, investing lines of study which had come to be regarded as rugged and arduous, with a charm and an interest which they had hitherto not been supposed to possess, and which give a new emphasis to the poet's words :—

How charming is divine philosophy,
Not harsh and crabbed as dull fools suppose,
But musical as is Apollo's lute,
And a perpetual feast of nectar'd sweets.

Nor has the change been less marked in matters medical. Sanitary science has arisen, and people have learned much concerning the laws of nature, and how to manage their own health. More intelligent care is given to diet, less reliance placed in drugs, the teachings of modern medicine being directed rather to the promotion of health than the cure of disease. Nor should we forget that last best gift to suffering humanity—that crowning glory of the Victorian era—the abolition of pain by anæsthetics, by which the sum of human misery has been indefinitely lightened, under operations by which life is prolonged, or again made glad, which would otherwise have been impossible.

And if surgery can point to its triumphs, in a greatly diminished mortality from severe operations, whether due to increased care in the antiseptic after-treatment, or to the avoidance of shock to the system by the resort to anæsthesia, medicine can also boast of the additions to its armamentarium of numerous valu-

able aids to diagnosis. Such are the stethoscope in lung disease, or affections of the heart; the sphygmograph, which not only records with unerring accuracy the frequency, but the peculiar form and rhythm of pulse-beat; the laryngoscope for throat disease, and various chemical tests and instruments for determining the temperature. I say nothing here of germ theories of disease, or of treatment or prophylaxis by inoculation, as being a subject still to a certain extent *sub judice*; what is of greater interest to us, is, that this same wave of intellectual light has not been without its influence on our own speciality. Whether we direct our attention to the facilities afforded by the schools in connection with the dental hospitals, or to the improved construction and preparation of instruments, materials, and appliances, we cannot fail to be struck with the progress which has taken place, and it will always redound to the credit of our speciality that it was privileged to give to a grateful world the inestimable boon of anæsthesia.

The dominant idea of the organisers of that exhibition, and of that wise philanthropist, the late Prince Consort, under whose fostering care it prospered, was to popularise art. Not so much to encourage the production of what is rare and costly (though this was not neglected), as to bring artistic treatment into matters of daily life. A conscious desire for emancipation from the monotonous and sombre uniformity of the routine of daily life, began to manifest itself among the people of this country, and it then occurred to that sagacious prince—always mindful of the precept, “not to look on our own, but also on the things of others”—that apostle of altruism of the best kind—to invite all the nations of the earth to bring their best products and possessions to our midst, for mutual advantage, comparison and improvement. How this was responded to, and with what far-reaching and stupendous results,—in the purifying and elevation of taste in our pottery, china, and metal work, in our furniture and the decoration of our dwellings, in our domestic architecture and all the details of daily life; what an impulse was given to progress of every kind; what rays of intellectual light were thus opened out, of light which can never be quenched,—is now matter of history. But it was not only, or even chiefly, as a revelation of beauty under our dull skies; it was not only as a collocation of the art marvels of sculpture and painting from Rome and Florence; of the beautiful and expressive wood carving, the ornate metal work, and the tuneful chimes of

Belgium, the tapestries and china, the perfect drawing, the exquisite colouring, and the thousand elegancies of France, the erudition, the culture, and the more severe forms of art of Germany, that it possessed an interest of its own for us, but rather for its teaching power. Not only was the eye regaled with results, but the processes by which those results were obtained were shown and explained. A death-blow was thus dealt to the old exclusive system by which the arcana of any trade or craft were jealously guarded from the neophyte. Handicrafts had indeed been for the most part described as "mysteries," and it was only after long and hard service as apprentices, that the pupils were permitted to snatch furtive glimpses into the penetralia of the craft. And in our own profession not only did this system prevail amongst the apothecaries, but even within living memory, in the highest ranks of the profession. It was no uncommon thing for a large premium to be paid to a leading consulting surgeon, with the implied expectation of the reversion of a hospital appointment. Such a scandalous state of things, with the nepotism to which it gave rise, and the consequent discouragement to the diligent student, is happily now no longer known. And here I cannot help pausing for a moment to contrast the state of things in our own speciality as I and my contemporaries found it, with that which is presented this day to those who have had the wisdom to avail themselves of the opportunities afforded them by becoming members of this Association. At the time to which I refer, the only hospitals which recognised our speciality, so far as to institute a department of dental surgery, were Guy's, presided over by Mr. Thomas Bell, well known as a professor of natural history as well as a distinguished member of the profession, and St. Thomas', of which I was the first incumbent. At each institution a short and somewhat elementary course of lectures was given, our experience being that the majority of the class being about to embark in general practice, they were not disposed to devote much time to more detailed instruction. This, with attendance on one morning in each week for operative practice, consisting almost solely of extractions, with an inconvenient chair, a bad light and worse instruments, in an out-of-the-way corner of the out-patients' department, constituted almost the only means of acquiring the requisite skill and knowledge for the practice of dental surgery. It is true that the system of apprenticeship before alluded to, was in force, but the time devoted to becoming qualified

by this means, consisted for the most part of mechanical drudgery in the construction of artificial arrangements, with but rare and scant opportunities of operating, or of witnessing operations on the living subject. So great was the difficulty indeed of getting to know the method of work of an eminent member of the profession, that men were fain to make themselves patients, and thus obtain a surreptitious and necessarily imperfect knowledge. What a contrast does this state of things present, with that which now awaits the members of this Association. Instead of only two hospitals with a department of dental surgery, no general hospital would now be regarded as properly equipped, which proposed to omit that important and necessary speciality. This is, so far, a matter of congratulation, as an evidence of the estimation in which our art is held by the public, and by those who have the control of such institutions, and also as ensuring more skilful and humane treatment for those among the out-patients who are afflicted with dental troubles; but as a means of affording opportunities of education for those who propose to devote themselves to the practice of the speciality in its present advanced state, the most perfectly arranged department in a large general hospital must necessarily be wholly inadequate. The necessary quietness and patience, the delicacy of touch, the complexity of the processes, the finish and cleanliness of the instruments, the absence of means of draining off and diverting the deluge of saliva, fatal to the success of many dental operations, the want of good light and other disadvantages which will readily suggest themselves to those who have had experience in this matter, unequivocally point to the necessity of a separate hospital and a special school for teaching purposes. How well this want has been provided for in the two dental hospitals in this metropolis, with their respective schools and professors, is attested by the number of students who annually flock to their portals for the instruction which they are so well-fitted to afford. At that noble institution in Leicester Square, which has been provided and dedicated alike to the sacred cause of humanity and of education, where the highest skill and the most humane treatment are brought within the reach of the humblest and most indigent, the diligent and anxious student is invited to witness the most advanced methods of practice by distinguished operators. With a light such as is rarely to be found in London, and which is indeed all that could be desired, with a chair admirably adapted for the purpose of supporting the patient

in a favourable position with a minimum of fatigue, and which has the further merit of combining simplicity with economy ; with all the latest improvements in instruments, materials, and appliances ; with the most dexterous methods of work demonstrated by hands of acknowledged skill, we have a combination of favourable conditions for the acquisition of knowledge formerly undreamed of, and as to which it is not too much to say that it leaves nothing to be desired. And this contrast is furthermore of a satisfactory nature, as showing that our speciality has kept pace with the spirit of the time, in throwing down the barriers of exclusiveness, which formerly hindered its progress and threatened to deprive it of its claim to be regarded as a liberal profession. Nor is it too much to assert that this broad and enlightened spirit of progress, which has culminated in the formation of this Association, may have received its initial impulse in that new departure of 1851, which has undeniably left its mark over the whole wide domain of science and of art.

Mr. TURNER expressed, in appropriate words, the gratitude of the meeting towards Sir Edwin Saunders, and proposed a vote of thanks to him for his address, which was seconded by Mr. John Hay, and carried by acclamation.

The Benevolent Fund Annual Meeting.

Friday 20th, August, 1886.

Sir EDWIN SAUNDERS (President) in the chair.

The HON. SECRETARY (Mr. G. Wm. Parkinson) read the Annual report as follows :—

Your Committee have great pleasure in again submitting to the contributors of the Benevolent Fund of the British Dental Association their third annual report.

The Hon. Treasurer's financial statement duly examined and certified by the auditors, extends from the foundation of the Fund in 1883, to the past financial year ending the 30th June, 1886.

The general business brought before your Committee during the past year extending from June 30th, 1885, to a corresponding period this year, shows that thirteen cases have received assistance principally with respect to children, who are being either partly or wholly maintained and educated, also widows and others who, without such timely assistance, would have experienced the greatest difficulty in maintaining themselves, at the same time the greatest care has been exercised to avoid imposition in any form.

BENEVOLENT FUND OF THE BRITISH DENTAL ASSOCIATION.

Dr.

BALANCE SHEET AS AT JUNE 30TH, 1886.

Cr.

Balance at Bank of England, July 1, 1885	... £198	16	7	Benevolent Allowances	...	...	...	£149	11	9	
Cash in hands of Secretary, July 1, 1885	...	5	4	0	Postages and Miscellaneous	...	...	...	3	8	10
Donations	...	...	...	...	Printing and Stationery	...	...	...	26	9	0
Subscriptions	...	...	...	...	Investment of Capital	...	...	...	149	15	0
Interest on Investments	...	...	...	...	Cash in Bank of England, June 30, 1886	...	...	...	148	4	11
	...	...	...	...	Cash in hands of Secretary, June 30, 1886	...	...	...	4	4	0

August 10th, 1886.—We have examined the Books of the Benevolent Fund of the British Dental Association with the Vouchers, and hereby certify the above Balance Sheet to be correct.

(Signed) W. F. FORSYTH,
WILLIAM ASH,
ASHLEY GIBBINGS, } Auditors.

LIST OF INVESTMENTS.

July 31, 1884,	£535	8	9	2½% Consols, costing	£499	5	0
March 6, 1885,	£133	8	7	2½% Consols, costing	114	5	0
March 1, 1886,	£167	1	8	2½% Consols, costing	149	15	0
					<u>£763</u>	<u>5</u>	<u>0</u>

The applications for assistance during the past year have been a little less numerous than those during the preceding one, this is so far encouraging, as it shows to some extent the comparatively prosperous and satisfactory condition of our professional brethren, it will also in a small degree contribute to augment our resources against adverse times; at the same time your committee earnestly hope that this somewhat smaller demand on our funds will not in any way tend to diminish the amount of donations, and more especially annual subscriptions, but that each member of the profession may be induced to support to the best of his ability, the Benevolent Fund of the British Dental Association, and thus enable your Committee to deal more liberally and effectually with any deserving cases brought before them.

Acting on the suggestion of Mr. S. J. Hutchinson, at the annual meeting held last year at Cambridge, 5,000 post cards were forwarded through the post to all registered members of the profession whose addresses were known, soliciting their support either by donations or subscriptions, the response to which, in the opinion of your Committee, was sufficiently encouraging to be well worthy of repetition on some future occasion.

In accordance with Rule XX. this annual report is now offered for your approval and acceptance, and a list of contributors has been prepared and is open to your inspection prior to publication.

In conclusion, the best thanks of the Association are due to Messrs. Wm. Ash, W. F. Forsyth and Ashley Gibbings, for their kindness in again auditing the accounts, and also to Mr. Tawse for gratuitously preparing the balance sheet, which will now be presented for your approval.

(Signed) JOHN DENNANT,
Chairman of Benevolent Fund Committee of Management.

EDWIN SAUNDERS,
President of the British Dental Association.

The HON. TREASURER (Mr. Alfred J. Woodhouse) stated that on the 1st July the balance at the Bank of England, was £198 16s. 7d.; the cash in the hands of the Secretary, £5 4s.; the donations amounted to £55 os. 6d., the subscriptions to £96 13s. 6d., and the interest on investments to £25 8s. 11d. That requires a little explanation. I am sorry to say that we have not an income that produces that amount. We did not, for the first year or so, give a power of attorney to our bankers to receive the dividends on our invested funds, and therefore they accumulated somewhat. The actual income for the year from invested funds, was £16 3s. 4d.; but the arrears not received were £9 15s. 7d., making altogether £25 8s. 11d. I just call attention to that, because next year our income from invested funds will not appear so much, and it might cause a little question as to how it was that this £25 18s. 11d. was more than a year's interest. I am the Treasurer, but really the heavy part of this work does not devolve

upon me. My brother-in-law, Mr. Tawse, mentioned in the Report, who is an accountant by profession, first of all got our books for us, and organised the mode of keeping them; but he has not only done that, but he has kept them in the main ever since the organisation of our Fund. He and my own private secretary, have really done the work. I think it is only due to Mr. Tawse, who is a volunteer in the matter, to bring his name thus prominently before you. There are in all professions and callings a number of idle men who have come to grief, and when our Fund was first started, all who had any right to call themselves dentists came upon us, and our late esteemed Secretary, Mr. Oakley Coles, with all his usual vigour and intelligence, investigated those cases, and I am sorry to say that he found out that many of them were most unworthy, and the money was not wasted on them. We have, within the last few days, decided to assist a very deserving case, introduced by Mr. William Ash. It is a source of satisfaction to the Subscribers, and to those present who are not Subscribers, to think that we have expended £149 out of £196, in the objects for which the Fund was instituted. The subscriptions in 1884, amounted to £183 11s. 6d.; the subscriptions promised in 1886, are £220. That gives a very nice increase of nearly £50 this year, beyond two years ago. (Cheers.) Moreover, the subscriptions are not only promised, but they are paid within £30.

The PRESIDENT: Gentlemen, I think this Report on the whole, a most satisfactory one, considering that it is but a young institution. The increase in the income for this year is a very satisfactory item. In establishing such a Fund as this, it behoves us to be extremely careful in administering it, lest we should introduce a laxity in respect to thrift, and the self-respect that comes from thrift. If it became known that there was a large fund to be drawn upon, in case of a family being left unprovided for, it might tend to a great laxity. Therefore I think this paragraph is very reassuring, in which we are told that great enquiry is made into all cases that come before them. The Fund meets a real necessity, and is on the whole admirably adapted for the purpose for which it was established. I have very great pleasure in moving that this Report be adopted, printed, and circulated in the Journal of the Association.

Sir JOHN TOMES: I have great pleasure in seconding the motion proposed by our President.

Mr. DENNANT, after recounting the particulars of a case that had been relieved, referred to the recent change of Secretaries. They had now had twelve months' experience of their new Honorary Secretary, Mr. George William Parkinson. The name, of course, was a sufficient guarantee that any work undertaken for the profession would be thoroughly done, and it was certain that a very wise choice had been made when Mr. George Parkinson was elected to the office. He had given evidence that he would spare no pains in the full and

thorough and complete investigation of cases which come before us. The Art Exhibition at the Dental Hospital, Leicester Square, had been got together by Mr. George Parkinson's exertions.

The motion for the adoption of the Report was then agreed to.

Mr. FOTHERGILL : I beg to propose that we give a hearty vote of thanks to the Treasurer, the Secretary, and the other officers of the Fund, who have so kindly undertaken the work of administering this charity for us.

Mr. BROWNE-MASON seconded the motion, which was agreed to.

Mr. WOODHOUSE, in returning thanks for the mention of his name, described another interesting case that had been relieved, and assured the meeting that it was a pleasure to administer the charity. He looked forward to the time when the Fund would be in a position to assist a poor brother to the extent even of £1 or £2 a-week. It was upon the Secretary that the chief burden fell in discovering imposture and investigating claims, and to him the chief thanks were due.

Mr. GEORGE W. PARKINSON (Hon. Sec.) : Mr. President and Gentlemen,—I am deeply obliged to you for your kind vote of thanks to me, and after the too flattering remarks that have just fallen from Mr. Woodhouse, and previously from Mr. Dennant about my humble self, I feel that the less I say now the better, with the exception, gentlemen, that anything I can do for the good and benefit of the profession with which my family have been so long and intimately connected, will be done to the best of my ability, and from the bottom of my heart. When I succeeded to this post, I thought, perhaps, I should find the work hard and intricate ; but everything was left by my predecessor, Mr. Oakley Coles, in such good order, that all has been flowing on evenly and smoothly since. And in conclusion, gentlemen, you may feel assured that as long as I am permitted to do the secretarial work of this Fund, I will take care that your money is not thrown away on undeserving cases, nor that your charity is misplaced. Gentlemen, I again thank you very much for your kindness.

Mr. CAMPION proposed, and Mr. Dennant seconded a vote of thanks to the Auditors, which was carried unanimously.

Mr. RYMER proposed a vote of thanks to the Chairman of Committee, which was carried by acclamation, and Mr. Dennant having returned thanks, Mr. Woodhouse then proposed a vote of thanks to Sir Edwin Saunders, for taking the chair, and the meeting then terminated.

The Fine Art Exhibition.

IF the finances of the Dental Benevolent Fund increase in the same ratio with the artistic value of the Exhibition of Fine Arts, now held annually in its behalf, we may feel hopeful about the financial future

of the Fund. We have noted with pleasure a marked improvement both in the quantity and quality of the works exhibited, and we can hardly fail to be struck by the coincidence, that as dentistry becomes more generally recognised as a branch of the medical profession, its practitioners increasingly distinguish themselves in that particular branch of the Fine Arts, in which the professors of the older science are admitted to excel.

On entering the little gallery, one of the first pictures to attract notice was a carefully finished study in oils of "Mill Bay," by Mr. C. S. Tomes, a work which we believe was painted while the artist had the advantage of the companionship of Mr. Brett, the well-known painter of seascapes, whose influence is unmistakeably recognisable. Though this work is, in point of size and finish, the most important of the artist's contributions, we were as well, if not better pleased with some smaller sketches, one of which—a "Bit from the Norfolk Broads"—was particularly noticeable for its quiet harmony of colour and cool atmospheric effects. As was the case at Cambridge last year, Mr. Prager's powerful figure paintings were a distinctive feature of the Exhibition, and we recognise the same breadth of style, brilliancy of colouring, and singular felicity in delineating expression. Though all Mr. Prager's works are distinctly above the average, we were, perhaps, most impressed by a powerful study of a Soudanese, seated in an Eastern bazaar, and by some forcible designs for Christmas cards. A good illustration of the saying that the busiest men have the most leisure, is to be found in the fact that Mr. Arthur S. Underwood, in spite of the pressure of professional and literary work, has still found time to aid the good work of the Dental Benevolent Fund. His contributions this year take the form of several sketches in water colours, chiefly of Broadstairs and neighbourhood, and a couple of portraits in oil, one of a face that has been familiar to all the dental profession for the last forty years, namely, the painter's father; the other, a charming, though unfinished portrait, of Mrs. Arthur Underwood, whose own contributions to the Exhibition will be noticed immediately. Among the water-colour drawings, a clever sketch in monochrome, by Mr. David Hepburn, of "Glen Sligachen, on a Stormy Moonlight Night," should be mentioned. We must not pass over the work of Mr. Fenn Cole, of Ipswich, who contributes several drawings of exceptional merit, one of which, "A Bedfordshire Lane," is a successful rendering of a difficult effect of light and shade, caused by the beams of the sun striking through the dense foliage of the overhanging trees.

A specially pleasing feature, and one deserving of further extension in future years, was to be found in the contributions of those whom we wish we might term the lady members of the Association—the relatives of the male contingent. Prominent amongst these were a couple of delicate little sketches in water-colours, by Mrs. Arthur

Underwood, and a carefully finished and effective study of Horning Ferry, by Mrs. Howard Mummery.

Passing away from what may be considered the more legitimate portion of the exhibition, the pictures proper, we must not omit to mention some beautiful delicate specimens of carving and inlaying work in ivory, by an old and honoured member of the profession, Mr. William Williamson, of Aberdeen, while the nostrils of an imaginative spectator could hardly fail to be saluted by "an ancient and fish-like odour" when confronted by the marvellously realistic reproduction of a fine pair of Yarmouth bloaters, the work of Mr. A. G. Gear, of Clapham Common. This gentleman also contributed some careful studies of still life. Microscopists would not fail to notice admiringly a collection of photo-micrographs, by Mr. S. F. Clarke, of Burton-on-Trent, to which no higher praise need be given than to say that they formed a worthy complement to those Mr. Charters White had exhibited in connection with his paper on Photo-micrography.

Limitations of time and space prevent our noticing in anything approaching to detail the work of a large number of ladies and gentlemen, to whom the thanks of the promoters of the Dental Benevolent Fund are due for their exertions in its behalf. A carefully finished sketch in oils by Mr. E. G. Betts, deserves more than passing notice, while no one could fail to be struck by several large water-colours of Mr. Hinchcliffe, which displayed unmistakable evidence of laborious and painstaking workmanship. Those who have had the pleasure on previous occasions of inspecting the work of Mr. Spence Bate, will regret that several pictures from his easel, owing to delay on the part of the railway companies, were not delivered in time for exhibition.

We must not omit to mention that the undoubted success of this year's display was due in a large measure to the exertions of Mr. George Parkinson, who was responsible for the hanging and arrangement of the works of art entrusted to him for exhibition; and as it is possible that certain members may not have noticed the announcement posted in the room, it may be well to remind them that as the pictures and other objects were this year contributed entirely on loan, the fund could not, as formerly, benefit by their sale. It was hoped, therefore, that visitors would contribute some small donation in a box placed for that purpose. As, however, this box was not such a conspicuous object as it deserved to be, we may state that Mr. Parkinson will still be happy to receive the smallest contribution from anyone who may feel uncomfortable at the idea that he had overlooked "the collection at the door."

The Dinner.

ON the evening of Friday, the 20th, the Annual Dinner was held at the Criterion, and the attendance was, as might have been expected, very large. Sir EDWIN SAUNDERS occupied the chair.

Grace was said by the Rev. Dr. HAWEIS.

After an excellent dinner, the Chairman proposed the health of "The Queen." He alluded in becoming terms to the Year of Jubilee, and quoted an interesting observation made by Her Majesty, with reference to our speciality. "Yours," She had said, "is the most useful profession, for while some require the services of the oculist, and a still smaller number those of the aurist, almost all, sooner or later, have need of those of the dentist." It is needless to say the toast was received with acclamations.

After the toast of "The Prince and Princess of Wales, and the Royal Family," proposed from the Chair and duly responded to, Mr. S. J. HUTCHINSON proposed "The Army, Navy, and Reserve Forces," dwelling especially upon the connection of the medical profession with the latter branch of the service.

Major R. ROGERS, of Cheltenham, in replying, drew attention to the growing desire for dental appointments in the services.

Mr. S. W. SIBLEY then proposed "The British Dental Association." He spoke of the growth and prosperity of the Association, and the changes of the last quarter of a century. He traced those changes to the energy of certain prominent members of the profession, some of whom had passed away, and some they were pleased to welcome there that evening. He traced the existence of the Dental Diploma to a proper feeling, that whereas a general medical education was necessary to the proper practice of the speciality, it was not absolutely necessary to follow out the medical curriculum in all its details. This fact had been obvious to the pioneers of the dental movement, and had been recognised by the College of Surgeons. He thought that prosperous as the Association was, a future of still greater prosperity lay before it. This future depended upon the profession recognising that its Association must be conducted upon broad and liberal principles. They must never forget that theirs was a branch of the medical profession, and as such had a great future before it.

Mr. F. CANTON in returning thanks, spoke of the gratifying success of the gathering at the School of Mines, and the large attendance at the dinner that night. He alluded to the struggles of the first few years of the Association and the apathy of the profession at large; he reminded the meeting of what they owed to the guidance of Sir John Tomes and the prodigious work done by the late Secretary, Mr. J. S. Turner. Their numbers were no doubt far short of what they should be, seeing that theirs was the only association started to carry out the provisions of the Dentists Act and to look after the general interests of the dental profession. It was a good and honourable

thing and a duty to make some sacrifice for the benefit of the profession ; and if we looked only to our own individual interests we ought to feel that whatever advances the profession itself, must advance them also. There were no less than seven branches, all well established and doing excellent work, and he hoped before long we should have an eighth. He had had the opportunity of approaching several members from Ireland, and he hoped before long they would have an Irish Branch. He then drew the attention of those present to the fact that the first Dentists' Register of 1879, contained a certain number of names, about 2,000, who were registered as having been in practice before the passing of the Act ; 200 of these had passed away from their business in the course of seven years, and the ratio would, in all probability, be greater as time went on.

Mr. J. SMITH TURNER, who was received with prolonged applause, in proposing the toast of the College of Surgeons, recalled the different feelings with which he had once regarded that body, and wondered how he would have handled that toast before he had acquired his diploma and entered the charmed circle. After dwelling upon the importance of the acquisition of status and influence in its effects upon individuals and associations, bringing with it, as it did, the sobering influences of responsibility and the sense of power, the speaker proceeded as follows :—"During the last twenty-five years, as Mr. Sibley has said, I think the history of our profession has been one of acquisition. When the feeling of a great want impressed itself upon the minds of the leaders of our profession, they formulated a dental curriculum, and they induced the Council of the Royal College of Surgeons to establish an Examining Board and to issue the dental diploma. That was our first acquisition, and that was the great and essential foundation upon which all recent dental progress and the progress of dental education has been built, and without that original foundation I do not believe we could have moved a step. Well, Sir, our next great acquisition was a dental hospital, or rather two dental hospitals, in London ; not hospitals only to distribute professional charity, for associated with them were schools and provision made so that students might follow out the conditions of this new curriculum, and it is remarkable if we look back to find that none of the arrangements which were then made have required up till now to be fundamentally altered. Our next acquisition was the Dentists Act. After that came the establishment of Examining Boards in Scotland and in Ireland ; then we acquired the British Dental Association. We next acquired the Dental Register. In referring to these acquisitions there is one to which I wish to call the attention of this meeting, and that is the first and original one—the establishment of the dental diploma by the Royal College of Surgeons. It is not in this bare fact that they established the first dental curriculum and issued the first dental diploma in England that the amount

of our indebtedness to that College is to be found. We must remember, that when the College entered into this course, it did so almost as an experiment, in the face of a considerable amount of opposition and at the expense of much self-sacrifice. The opposition sprang partly from many in our own body, but also from the medical press generally. Now, this opposition, I am happy to say, is dying away. I know that it exists still, but it is in a kind of suppressed state of existence, reminding one somewhat of Rachel weeping for her children, who would not be comforted. I hope that the logic of facts and the soothing influence of time will do away with that opposition altogether, for I think we are trying to show that we are worthy of the confidence which the College of Surgeons reposed in our leaders. There is another point which shows our indebtedness to the College of Surgeons, of which I would like to remind this meeting. I mention these facts because we are liable, in the enjoyment of present arrangements and in the enjoyment of present facts, to forget the inception of them, and to forget the conditions from which they arose and the difficulties through which they passed ; and we are liable to give to contemporary institutions that credit which alone belongs to the great pioneer which worked the essential change from which so many other successful changes have arisen. Well, this other condition was this: The Dentists Act was passed through Parliament at a very small expense ; but you must not suppose, gentlemen, that the College of Surgeons got its work done for it under the same conditions. The College of Surgeons, when it took up the position which it did in establishing a dentist's diploma, had no Dentists Act to back up the step which it took. On the contrary, it had to go to Parliament to obtain permissive legislation to issue a dental diploma, and the College did so at very considerable expense. Not only had it great opposition to contend against, but it had very considerable pecuniary expenses to meet, and I think I am within the mark when I say that it is very doubtful if even yet it has reimbursed itself for the preliminary expenses which it incurred in the establishment of that diploma. Now, if we consider the position we were in then, and the way in which the College of Surgeons behaved towards us, I consider that we are indebted to the College of Surgeons in a way which we cannot well express. What I have stated is a mere outline of indebtedness which we owe to this great institution. I know well that it was only following its traditions in what it did. I know that it saw an opportunity of improving the education of a very important branch of the healing art, and thereby serving the public, and that it was only acting then as it has frequently acted on other occasions, when it stepped forward to assist the dentists in providing them with the education which they required. And gentlemen, during all the years in which the Royal College of Surgeons has administered the provisions granted to it by a permissive

legislation, which had no protection whatever, it has never once betrayed its trust. It has never once shown any inclination whatever, either under the name of assumed liberality, or with a desire to procure more candidates for the diploma, to lower the character of that diploma. On the contrary, it has always shown the utmost jealousy to protect it, and to maintain it in the high position which it occupied at first. One more word: there are a large number of dental students who fulfil their curriculum in London, and who, for some reason or another do not come up to the College of Surgeons for their diplomas. Now I think, from patriotic feelings alone, these gentlemen who study in London, should try to come up to the College of Surgeons of England, and not go further a-field for that which is so near at home, and which will be to them a life-long possession of pride and satisfaction. Professor Marshall is well known to every one here. He occupies the very highest position in the profession to which he belongs. He is a member of the Medical Council, and I look upon his presence here to-night, and upon the presence of one or two other gentlemen sitting to the right and left of our Chairman, as a good sign, and as a token of encouragement to us to go on in the path which we are pursuing. We must remember that a very few years ago we could never have secured the countenance of such gentlemen as I refer to. That is the great step that our profession has made. I hope the College of Surgeons may long stand between the public and the pretentious grievance of charlatans. I hope the College of Surgeons will never regret the step which it has taken in supporting the cause of Dental Education; and I hope further, that it will always have upon its Council such men as Professor John Marshall, whose name I ask you to couple with this toast."

Mr. JOHN MARSHALL in returning thanks, after some whimsical comparisons between the table and guests and a maxilla surrounded with teeth, spoke as follows:—

"The real credit of the council of the College of Surgeons in this particular matter is due to the exertions, and to the persistent exertions of one of the most straightforward, strong-headed and honest men that I ever knew, Mr. John Moncrieff Arnott, that this question was taken up seriously in the council of the College of Surgeons. Subsequently he obtained by degrees the support of another distinguished man, who was at one time president also of the Medical Council to which Mr. Turner has alluded, I mean Mr. Joseph Henry Green. Then that admirable and keen-sighted member of our council, the late Sir William Lawrence, took up the running, and with three men like that upon the council you may understand that it was utterly impossible for any other members to resist their persuasion for long, and so at last the College of Surgeons came to offer to you a fellowship which would give dignity to your profession, but at the same time confer, as it were, immortal honour on itself. For

when you speak of a possible severance of your relations with the College, we must understand the feeling of the present day is not in favour of separation but in favour of federation, and although it is just possible that the wheel of fortune may turn round, and in the course of a century or two you may possess an admirable corporation of your own, your own council, your own charter, your own diplomas, and secede from the College of Surgeons, still as long as the English nation stands, and the British people continue, we shall always have what I say is the immortal honour of having in the first instance set you upon your feet. With regard to the conduct of the examinations of the College nothing gives a member of the council, who has a taste for examining, greater pleasure than to take his turn at the Dental Board, and I am quite sure the examiners of our College not only welcome the co-operation of examiners drawn from your profession outside of the council but that they find invaluable assistance in the practical knowledge which those gentlemen bring to bear, in order to put the students through their proper technical tests. Working then as the Dental Board of examiners do, scientific men with a broad knowledge of anatomy, physiology and surgery, side by side with those who have acquired a capacity to deal technically with dental work, we have as strong an Examining Board at the College of Surgeons as can be desired; and so long as that is the case, it appears to me that no improvement is at present possible in the mode of getting your diploma. I am speaking now, of course, of the dental license. An increasing number of your profession are endeavouring to obtain the membership of the Royal College of Surgeons. Naturally, some of those who possess your license will want a still higher distinction; they will want it for themselves, they will want it for the public, they will want it for their own prosperity, and I am quite sure that the College of Surgeons will do everything that it possibly can to favour any steps towards the improvement in the education and training of your profession. I was very much struck by a remark made by your Vice-president, Mr. Turner, in one of his addresses, that he did not like the idea of a man being a surgeon first and a dentist afterwards, but that he should be a dentist first and a surgeon afterwards. When I first read that sentence I shrugged my shoulders, but the more I think of it, the more I think it must be so; I think it is impossible for a surgeon, as has been remarked to me by Sir John Tomes this evening, when he is fully equipped as a surgeon to acquire the technicalities, the handicraft, the dexterity, the muscular power, the finger power, touch, and so on, that the dentist requires in the practice of his fine art."

Mr. JAMES PARKINSON, in proposing "The Benevolent Fund," stated that the money at their disposal was inadequate to the demands upon their purse. If each of the 5000 people on the Register were to subscribe a shilling a-piece, or better still, half-a-crown, the Fund

would be wealthy and powerful, and the subscribers none the poorer. To avoid mistakes, let subscribers make a rule of sending their subscriptions on the 1st of January.

Mr. DENNANT, in responding for the Benevolent Fund, explained that the Fund had no pauperising tendency, but rather that it was a means by which the unfortunate of the community might be helped to help themselves ; its efforts led to the same results as endowments and scholarships in public schools. He quoted a case of a widow of a respected member of the Odontological Society, two of whose daughters were, by the agency of the Fund, enabled to procure a befitting education, and thus to fit themselves for a struggle with the world. The speaker then read some of the statistics of the Fund (which are reported in our account of the Benevolent Fund Meeting, page 572), and finally dwelt upon the fact that what they wished to arouse was the general interest of the Association. The subscriptions need not be large, but if only they were general it would mean a great deal.

Mr. R. BRUDENELL CARTER proposed the toast of "The Odontological and Odonto-Chirurgical Societies." He spoke of the advantage of societies for the free interchange of thought and discussion, and predicted for the Odonto-Chirurgical Society as eminent a position as its elder and better known sister, in the days to come.

Mr. CHARTERS WHITE and Mr. BOWMAN MACLEOD having respectively replied for the societies—

Dr. J. SMITH then proposed "the Medical Schools." He pointed out the close identity in the curriculum of Scotland and England, and regarded with satisfaction the fact that both attained the same end with similar means.

Mr. MORTON SMALE returned thanks on behalf of the Schools.

Mr. T. A. ROGERS then proposed "the Health of the Chairman," which was received with acclamation, and Sir EDWIN SAUNDERS replied.

Mr. TRIMMER proposed the "Representative Board" coupled with the name of Sir John Tomes, which was acknowledged with musical honours.

Sir JOHN TOMES in returning thanks for the Representative Board said that that body might be regarded as the concrete expression of the Association. It was its organ of business, and was composed of representative men selected by the members of the Association and taken from every part of the country ; every district, and almost every large town was represented. The Board had not sought to make laws, but to administer those already given in our articles of incorporation and repeated in the bye-laws. No favouritism or prejudice, local or general, had ever influenced the decisions of the Board ; one-third of its members retire every year, and though one or two are re-elected, it is because they fulfil certain duties with the details of which they are familiar, and amongst the newly elected were always

a due proportion of younger men ; thus all ages had their representatives, and this method of selection, he hoped, would never be laid aside.

Mr. SPENCE BATE proposed the toast of "The Visitors," coupled with the name of Mr. T. F. Bowman.

Mr. BOWMAN having replied, Mr. FELIX WEISS proposed "The Press," commenting upon the invaluable help of the public papers in exposing abuses, and spreading abroad a proper horror of charlatanism, and respect for the principles of practice advocated by the Association.

Mr. SCOTT THOMPSON responding, looked forward to the time when every dental practitioner would be a medical practitioner also.

Mr. GEORGE WM. PARKINSON announced that the subscriptions to the Benevolent Fund that had resulted from that evening's appeal, amounted to £43.

The very pleasant evening then terminated.

Central Counties Branch.

THE Annual Meeting of the Central Counties Branch will be held on Friday, the 8th of October, 1886, in the Board Room of the Dental Hospital, 71, Newhall Street, Birmingham. The order of procedure will be as follows :—

Meeting of Council at 1.30 p.m. General Meeting of members, for election of officers, &c., at 2 p.m. Open to visitors at 2.30, when the President will deliver his address, after which the demonstrations will be given, and papers read and discussed as follows :—

Mr. STEPHEN BURT, L.D.S.Eng., of Leamington, will give a demonstration on "Cylinder Filling," and Mr. JOHN HUMPHRIES on "Sponge Gold Filling," which will be followed by a paper by Professor WINDLE and Mr. JOHN HUMPHRIES, L.D.S., Lecturer on Dental Anatomy at Queen's College, Birmingham, on "Man's Lost Incisors," illustrated by numerous models.

Mr. CHARLES SIMS will read a short paper on the "First Permanent Molars."

Mr. HUXLEY will show a case of excision of the jaw for tumour, (with denture).

Mr. BREWARD NEALE will show two patients for whom he has constructed artificial noses, palates, &c. Other cases of interest will be brought forward if time permits.

The Annual Dinner will be held at the Clef Club, Paradise Street, Birmingham, at 6.45 p.m., tickets, 7s. 6d. each.

Practitioners of the district are invited to attend.

BREWARD NEALE, *Hon. Sec.*

ORIGINAL COMMUNICATIONS.

Dental Education.*

By MORTON SMALE, M.R.C.S., L.D.S., L.S.A.,
DEAN OF THE DENTAL HOSPITAL OF LONDON.

THE dental education of our sons and pupils is a subject fraught with so much interest, and of such vital importance to us all, that a short practical paper dealing with its various details, appeared to be of probable value at our gathering to-day.

We are each in turn asked by relatives, friends, or pupils, how the dental tyro is to proceed? It is to prepare us with a ready answer to such questions that I venture to address you. The importance of the subject is my excuse for troubling you, and may, I hope, prove an equally powerful reason for you to be lenient in your criticism.

The objects of education as applied to dentistry are, I take it : Firstly, to provide that those who practice our profession shall be gentlemen. Secondly, to enable these gentlemen to place their names on the Dentists' Register, in order that they may practise it ; and thirdly, that those who practise it shall do so with benefit to their patients and credit to themselves.

There are failures in all these directions. *A gentleman* may fail to become a dentist, even all those who do practise it are not gentlemen, while some practise it without either benefit to their patients, or credit to themselves. So much is this the case, that there are those following our vocation who are ashamed of their profession, who can only speak "evil of the bridge that carries them over," because forsooth there are black sheep upon the Register who take every opportunity to degrade their own calling. One might with equal justice be ashamed of our humanity, because there are members of it who habitually disgrace it ; the best of mankind, however, "walk *not* upon the other side," but endeavour by good example and providing education, to raise the renegades to a higher standard of nobility and self-respect. Such it appears to me is the line of conduct adopted by this association, consequently

* Read before the Annual General Meeting.

it has attracted to itself the best and truest members of our profession; conspicuous among these, we must allow, are the two gentlemen our Sovereign has been pleased to honour with knighthood.

The requirements of the necessary curriculum to get upon the Dentists' Register vary, according to the country in which the examination is passed. It is my intention to deal only with the requirements of the College of Surgeons of England, that being the one most frequently taken, and generally admitted to be the most thorough.

The curriculum may be divided into—

- a. Preliminary education.
- b. Professional education.
- c. Examination.

The regulations with regard to "the Preliminary" are to be obtained at the General Medical Council Office, 299, Oxford Street, several copies of which are upon the table. From these it will be seen how numerous are the opportunities for our youths to pass the necessary standard. I can hardly speak about them all, but of the more important I will say a few words, viz., the Matriculation of the University of London, the Oxford and Cambridge Local Examinations, and the Special Examination conducted by the College of Preceptors for Medical Students.

The matriculation, which is held in January and June, is on all grounds the best of these—it should be passed when a youth is sixteen or seventeen without much difficulty. It possesses these advantages :—It ensures the boy receiving a fairly good education, it opens the doors to all the professions, and if at any time during his pupillage or hospital career, the student should forsake dentistry for any other branch of the healing art, it is open to him to do so, without returning to school books and passing another preliminary examination.

Much might be said here, did time permit, about the education of boys, but I will content myself with saying, that I consider the requirements of the University of London the most perfect. It does not overrate the classical, the modern, or scientific side, but has struck out for itself an independent and useful line of education. The embryonic student failing this, should "negotiate" either of the local examinations of the older universities, and failing these, the one conducted by the College of Preceptors, the order in which these are placed showing their relative values.

This comparatively recent addition of a preliminary examination to the dental curriculum is of great importance, it provides that as the students will be members of a learned profession, they should be fitted to adorn their calling in life, and the society in which they will be called to move. It is the foundation, moreover, on which the whole super-structure of their professional education is to be built; it is therefore *impossible* to exaggerate its *importance* or to make it too thorough. Let me beg of you not to advise our youth to pass the examination which is easiest, our common frailty prompts us enough in that direction, but we all should encourage them to pass such a preliminary examination, that in their future they can contemplate it with pride and satisfaction.

The necessary preliminary having been passed, the purely professional part of the education commences, by an apprenticeship to a registered dentist, in order that the mechanical side of our calling may be thoroughly mastered; the College of Surgeons of England requires this to extend over three years. Immediately the articles are signed the youth should register as a dental student.

No professional work is recognised by the College of Surgeons prior to registration. It is important to note this; many heart-burnings and much trouble to officials would be saved if this simple regulation was thoroughly grasped, viz., first preliminary examination to be followed by apprenticeship and registration simultaneously.

It is impossible to over-rate this mechanical training, and three years is not a day too long to spend in a workshop to learn and master the many minutiae of the mechanical art, without a thorough familiarity with which it is impossible to be a good dentist. I hope the day is far distant when this pupilage will be abolished.

In another country it is the custom, I believe, for the mechanical training to be given at the dental school. We in England should be sorry to see this plan adopted, for we find enough to do at our schools to teach the operative part of our profession; moreover, the mechanical part cannot be taught in classes as thoroughly or well as under the personal supervision of a skilled mechanic.

There is one more danger we must avoid, the separation of our profession into two parts—operative, mechanical—this would be a fatal mistake. The successful dental mechanic is he who has a thorough practical knowledge of the anatomy of the oral cavity

and its surroundings, and who is deft and clever in his digital manipulation. The successful operator is he who, in addition, has a thorough practical knowledge of the laws that govern mechanical matters. The first-rate dentist is he who combines both qualities in an unusual degree.

At the expiration of three years the hospital career should commence by simultaneous entrance at a dental and general hospital. The candidate should now register as a medical student, not necessarily to take a medical or surgical qualification, but lest at some future time he should wish to do so; the work which would be done at the general hospital for the dental qualification, and is largely the same as that required for the general qualification, need not be repeated, but the whole of the time so spent should be allowed to count as part of the medical curriculum.

This hospital work is the most serious in a student's career; he is launched into London life mostly without any influence over him, save that of his early training at home and in the workshop; in proportion as they have been thorough and earnest, as a rule is his time spent during his student days. These hospital years should be spent in real hard work in mastering every detail of the operative department. The students should seek advice from their teachers, and avail themselves of every opportunity of learning from the large experience of the members of the hospital staff, in order that each generation may progress nearer to perfection. At the general hospital let the time be spent mainly in the dissecting-room, the physiological laboratory, and the out-patient department, in which places the most practical part of the medical education is obtained. The out-patient room is not sufficiently often visited by the general student, and the attendance of the purely dental student is, I fear, nearly nil.

This brings me to examinations—class examinations, and the examination for the license in dental surgery. Of the former, I should like to say to the student, never miss an opportunity of attending these; if they consist of *viva voce* questions only, they are useful; but if in addition there is a paper to be written, they are most valuable to teach men to write papers and prepare them for the ordeal at the College of Surgeons. This latter is really very thorough, but I should like to see added to it an examination in the mechanical department, if, as I maintain, the two departments are to constitute the whole profession, and a board of examiners is to decide who is fitted to practice it, each side of the profession should be made a subject of examination.

Dental *materia medica* might with advantage be a subject of examination, and replace in the curriculum the ordinary course of *materia medica*: this latter has virtually been removed from the double qualification schedules, and relegated to pre-hospital days.

There is yet another question of interest to us, viz., the desirability of maintaining and cementing the union between the dental and other branches of the healing art. I think we are all agreed upon this? Nothing will so strengthen this bond, as members of our department taking, in addition to the license in dental surgery, the so-called double qualification; it will place the dentist on the same platform as the mass of the medical profession, and it would be the most practical way of showing our desire that such an end should be consummated. I should indeed be sorry to see the dental regarded as a distinct profession, already it is too much considered so by the general public. I cannot too strongly advise those who have to train young men, to persuade them to take the double qualification of the conjoint colleges of surgeons and physicians. Should this mode of procedure be adopted, I venture to predict that the progress of our vocation in the future, will be more rapid and thorough in its nature than it has ever been during the last thirty years. This advance will be of such a character that dentistry will take its place as an essential part of the great medical profession, the other branches of which will be pleased to acknowledge the dentist as a brother pledged with them to the relief of human pain and suffering.

Increased medical and surgical knowledge is of great value, and enables us to take a larger and broader view of matters concerning oral surgery. He who spends four years instead of two at a general hospital, must have this extra knowledge.

The following incident points out my meaning. A lady about forty, consulted a London dentist with regard to her teeth. During one of his operations, he noticed a small papilla on the side of her tongue. He enquired about this and found it had existed for several months. The tongue was examined carefully, the glands in the neighbourhood were not infiltrated, but there was slight cachexia and loss of weight. She was advised to have the papilla and some surrounding tissue removed, and for this purpose to consult an eminent surgeon. This was not done, and within two years she died of cancer of the tongue. Had the operation been performed at the time it was advised, very probably this lady

might have lived for many years. This demonstrates in a practical way the usefulness of the larger knowledge.

It is urged on the other hand, that the course I recommend takes too much time and money, I can only ask what they weigh in the balance against knowledge and power? Moreover, neither the time nor the money are wasted; but may be regarded as invested capital that will return an adequate interest. It is possible also for the student to meet this extra expenditure by taking *locum tenens* during the vacation.

Yet again it is urged, that he who devotes all his time to dentistry pure and simple, must be the best operator. This is not borne out by experience; our best men almost invariably are those seeking the higher qualifications.

After a student has been at the hospital some time, he often evinces a desire for another qualification, and is not satisfied with the "L.D.S. only" as he calls it, and wishes to seek in another hemisphere the high sounding title of "Dr." This appears to me to be a slight on our country. Our schools and English dentistry, all of which, I maintain, are the finest the world produces, and he who boasts the M.R.C.S., the L.R.C.P. and L.D.S., obtained by study in our best English schools, can hold his own against the world, and if recent agitation in the medical profession ends successfully, he will be given the title of M.D.

Mr. Hutchinson, when he found we were to deal with kindred subjects, asked me to handle also the subject announced in his name. I will therefore endeavour to point out how it is best for the dental student to obtain these three qualifications.

After the preliminary examination has been passed, the student should register as both a dental and medical student; during the mechanical apprenticeship receive instruction from any registered medical practitioner, or from any pharmaceutical chemist, or at a public hospital, or infirmary, or dispensary, in chemistry, including chemical physics, practical chemistry, pharmacy and materia medica, and present himself for examination in these before entering a hospital; or if he prefers it, he may take the two latter later in his career, viz., at the second examination. At the expiration of his first winter let him pass in elementary anatomy and physiology, at the end of his second winter let him take anatomy and physiology.

At the expiration of two years he may present himself for the dental license; he will during these two years have been attending

simultaneously both the general and dental hospital. During the remainder of his time he should devote himself to surgery, medicine, and midwifery, &c., in which subjects he may be examined at the expiration of two years from the time of passing the second examination.

It was felt that the recent changes brought about by the amalgamation of the two colleges have greatly increased the difficulty of obtaining these higher qualifications; I must ask you to take my word for it that such is not really the case, the curriculum is really simplified, and a candidate now is only re-examined in the subject in which he fails. The old M.R.C.S. only, as a separate diploma, is a thing of the past; it is only advisable to deal with things as they are. I may be asked what is the extra time and money required to take these extra qualifications? It takes two more years, but the whole of these need not be necessarily spent in London. One winter and two summer sessions may be passed in one of the following ways:

- (a) Attending the practice of a hospital, infirmary, or other institution recognised as affording satisfactory opportunities for professional study;
- (b) Receiving instruction as a pupil of a legally qualified practitioner holding such a public appointment, or having such opportunities of imparting a practical knowledge of medicine, surgery, or midwifery, as shall be satisfactory to the two colleges;
- (c) Attending lectures on one or more of the required subjects of professional study at a recognized place of instruction.

The twenty cases of labour can be signed for by any legally qualified practitioner.

The duties of clinical clerk and surgical dresser, which must be discharged after the second examination during six months each, can be performed at a general hospital, infirmary, or dispensary, or parochial or union infirmary, recognised for this purpose.

These arrangements make it less costly for students, whose parents live in large towns where such public institutions are found. A large proportion of the expenditure being the living in town.

The actual increased expenditure in hospital fees is about fifty or sixty guineas. The examination fees for the three examinations for the double qualification under the conjoint scheme, is thirty-five guineas.

For the convenience of reference I should like to tabulate as concisely as possible the best mode of procedure for the dental student to obtain the three examinations :

1. Preliminary examination.
2. Apprenticeship.
3. Register as a dental and medical student, or this latter can be postponed until entry at hospital.
4. During apprenticeship receive instruction as above in chemistry, materia medica, and pharmacy, and pass in them at the College of Surgeons.
5. Enter simultaneously at a dental and general hospital.
6. Pass in elementary anatomy and physiology at end of first winter session.
7. Pass in anatomy and physiology at end of second winter session.
8. Take dental license at end of second year.
9. Devote remainder of time to medicine, surgery, midwifery, &c.
10. Pass, at expiration of two years from second examination, the final test of the two colleges.

In conclusion, I should like to point out, side by side, the requirements of the curriculum for the dental license and that for the double qualification, thus demonstrating how much of the latter curriculum must of necessity be taken by the dental student, and how few the extra subjects required.

Requirements for Double Qualifications at a General Hospital.

Anatomy—One course of lectures.

Physiology—One course of lectures, three months extra practical physiology.

Dissections—Twelve months.

Surgery—One course of lectures.

Medicine—One course of lectures.

Materia Medica, Chemistry, Practical Chemistry—Done before entering school now.

Requirements for Dental Licence at a General Hospital.

Anatomy—One course and twenty lectures on head and neck.

Physiology—One course of lectures.

Dissections—Nine months.

Surgery—One course of lectures.

Medicine—One course of lectures.

Materia Medica—One course of lectures.

Chemistry—One course of lectures.

Practical Surgery and Medicine —Three winter and two summer sessions.	Practical Chemistry — One course of lectures. Practical Surgery and Clinical Lectures—Two winter sessions.
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Extra Work Required.

Midwifery—One course of lectures, and twenty labour cases.
 Practical systematic instruction in medicine, surgery, and midwifery.
 Instructions and proficiency in Vaccination.
 Pathological Anatomy—One course of lectures and demonstrations in post-mortem room during attendance on clinical lectures.
 Forensic Medicine—One course.
 Clinical Lectures on Medicine—Nine months.
 Clinical Lectures on Surgery—Nine months.
 Clinical Study on Midwifery—Three months.
 Clinical Clerk—Six months.
 Surgical Dresser—Six months.

On Composite Fillings.*

By C. H. BROMLEY, M.R.C.S., L.D.S.

IF dental literature is a reflex of the opinions of members of the dental profession, a great change has taken place of late years in the sentiments of that body with regard to the materials used in filling teeth. The standard work in the days of my pupilage was "Harris's Principles and Practice of Dental Surgery." I will only quote a few words from that book, but by it I was taught that "gold, in the opinion of the author, is the only metal which should be employed for filling teeth," and that "amalgam is decidedly the most pernicious material that has ever been employed for filling teeth." To such an extent was the gold, all gold, and nothing but gold policy carried in those days, that the American Society of Dental Surgeons expelled several members in consequence of their using amalgam as a filling material. As usual, the making into a sin that which was not a sin, provoked a reaction which has reached its highest development in Dr. Flagg's instructive and interesting work, "Plastics and Plastic Fillings." English writers on

* Read before the Southern Counties Branch, July, 1886.

dentistry have, as far as my recollection carries me, always treated the question of filling materials in a more eclectic spirit than their transatlantic brethren, but even they, until recently, have written of amalgam as a makeshift, and of gutta percha as only fit for temporary stoppings. The tendency of the time, however, is clearly indicated by the fact that in Messrs. C. Ash & Son's catalogue (a book which is a dental education in itself) I find quoted for sale twenty-eight different kinds of amalgams, seven of gutta percha, and fifteen of oxychloride of zinc, phosphate of zinc, &c., and others can be obtained to order. I presume then that when a dentist sets about filling a tooth nowadays, he does not invariably say to himself, "how shall I make a good gold filling"? but he says, "with what material, or materials, had I best fill this cavity." In my own case, in the treatment of all but the simplest cavities, I say *materials*, using the plural, as I find that I can save teeth better for my patients by combination fillings than by limiting myself to the use of one material.

Dr. Flagg says, in relation to this question, "The idea is ever tacitly accepted that a cavity of decay must be filled with *one material* which shall combine all the varied attributes needed for success, totally ignoring the palpably presented fact, that materials which possess certain tooth saving attributes, and are deficient in others, can be utilized in *their proper places*, while these again can be protected by other materials, which though deficient in the essentials possessed by the former, are, in a wonderful degree, possessed of the very essentials which in these have been found wanting." The objects to be gained from the use of more than one material in filling a tooth differ in different cases, but the principal advantages to be obtained are increase of ability to arrest decay and enlarged power of resistance to thermal action. To these we may add preservation of colour and appearance, and economy in cost of material. When a case for filling presents itself, a choice has to be made of filling materials, and certain considerations influence the decision, namely, position of cavity, extent of decay, structure of tooth bone, sensitiveness of dentine, and age of patient. In a cavity in an adult tooth of fair texture, decay slowly progressive, nerve well protected by sound dentine, a simple metal filling meets all requirements. An approximal or buccal cavity in a tooth of this description may require more varied treatment if the decay at the cervical edge extends beneath the margin of the gum. This cervical edge is the vulner-

able point, and if decay recurs in an approximal cavity which has been filled, it will almost invariably make its appearance in this situation. The material then to be placed at the cervical edge is that which we believe to be most potent in arresting decay.

Experience proves that the amalgams which contain copper as one of their ingredients, possess this power in larger degree than others, and if the cavity with decay extending beneath the gum is out of sight, as in the distal or buccal surface of a molar, I fill throughout with Stewart's amalgam or Fletcher's submarine alloy. Copper amalgams have a marked compatibility with tooth-bone, and yet another virtue, that the nerve will tolerate their immediate neighbourhood better than that of any other metal, except tin. This fact was pointed out to me by my instructor at least thirty years ago, and I have seen many proofs of its correctness. Copper amalgam is not satisfactory from an æsthetic point of view, but like Mercurio's wound "'twill serve." If the cavity is in the front of the mouth and circumstances indicate a gold filling, I find my work lasts longer if I fill along the cervical edge with tin; the discoloration, caused by oxidation of the metal, is not observable in that position, and is certainly not prejudicial to the tooth. If an approximal surface of a bicuspid is under treatment, I prefer to fill the lower third of the cavity with Hill's gutta-percha, and to complete the filling with an amalgam which keeps its colour well. Dr. Flagg suggests that the surface of such a filling should be finished by finely levigated pumice applied on a piece of wood, and that the wood should be passed up and down the face of the filling and not across it, and this mode of finishing certainly makes the filling less noticeable. When the preservation of tooth colour is of great importance, a thin lining of zinc phosphate may be placed inside the labial wall, allowed to harden, and shaped before the amalgam is introduced. If possible, a second sitting should be obtained in these cases in order that any superfluous gutta-percha may be trimmed away and smoothed after the amalgam has thoroughly set.

I do not propose in this short paper to deal with cases of root filling or of building crowns on roots, but will conclude with a few remarks on the conservative treatment of children's teeth. It is in dealing with these young teeth that the advantages to be gained by combining materials will be most pronounced. I have many patients amongst the boys at a large public school, and I find that at the beginning of each term I have to remove fillings

which have been inserted during the holidays, and which, owing to the conductivity of the metal of which they are composed, have rendered the teeth unduly sensitive to thermal changes. In these cases simply bottoming the cavity with a piece of court plaster, or of thin sheet vulcanite, will not suffice; the lateral walls also need protection. I therefore, as a rule, fill these soft young teeth with gutta percha in approximal cavities, and should the masticating surface be involved, I protect the gutta percha from attrition by zinc phosphate. Medium sized and large cavities in children's permanent molars may be comfortably and serviceably stopped by filling the larger part of the cavity with Fletcher's artificial dentine and completing the operation with amalgam, of which I prefer to use a quick-setting variety in children's teeth, as a very soft filling is often bitten out of shape. I have been filling cavities of this description lately on a plan mentioned in Mr. Quinby's "Notes on Dental Practice," filling the cavity with gutta percha and protecting it by a gold cap. If care is taken to fit the cap to the orifice of cavity, and to pack the gutta percha round the staple in under surface of cap, so as to secure perfect union between the two bodies of gutta percha, a filling is made which will prove durable and will secure the tooth against changes of temperature.

LEGAL INTELLIGENCE.

Smith v. W. E. Arnemann.

TRANSCRIPT of the shorthand notes of JAMES CATTON, Nottingham, of the proceedings at the Nottingham Guildhall, on Friday, August 13, 1886.

Magistrates present: Alderman BARBER and Mr. W. E. DOBSON.

Solicitor for the prosecution: Mr. CRAWLEY-BOEVEY, of BOWMAN & CRAWLEY-BOEVEY, London.

Solicitor for the defence: Mr. D. WHITTINGHAM, of WHITTINGHAM & WILLIAMS, Nottingham.

THE CLERK TO THE MAGISTRATES: Edward Wilhelm Arnemann, this is a summons against you that on the 5th day of August you not being registered under the Dentists Act, 1878, did unlawfully at 37, Sherwood Street, take and use the name or title of a dentist, or some other name, title or description implying that you were registered under the Dentists Act. Do you plead guilty, or not guilty?

DEFENDANT : May I ask permission to adjourn this case until my counsel, Mr. Whittingham, arrives ?

Alderman BARBER : Well, your counsel should be here you know. There is a gentleman here especially from London, and he wants to get away.

After a delay of a few minutes Mr. Whittingham arrived, and

Mr. CRAWLEY-BOEVEY said : I appear, your worships, for the prosecution, and I may mention that the proceedings in this case have been instituted on behalf of the British Dental Association, who are, as your worships are perhaps aware, an association of some of the leading dentists of the United Kingdom. The defendant is charged with an infringement of the Dentists Act of 1878, 41 and 42 Vict., ch. 33. The charge is based upon section 3 of that Act.

Mr. WHITTINGHAM : Will you tell me where the society is defined in the Act.

Mr. CRAWLEY-BOEVEY : The prosecutor is Mr. Smith.

Mr. WHITTINGHAM : I do not see the council of the society mentioned in the Act. The Act defines 'a General Medical Council, but makes no allusion to the Council of the British Dental Association.

THE CLERK TO THE MAGISTRATES : Anybody may prosecute now.

Mr. CRAWLEY-BOEVEY : The prosecutor is Mr. Thomas Smith, a common informer. I merely mentioned that the proceedings are taken at the instance of the Association, in order to meet an objection which may possibly be taken hereafter. Section 3 of the Dentists Act provides that on and after the first day of August, 1879, a person shall not be entitled to take or use the name or title of dentist, either alone or in combination with any other word or words, or of dental practitioner, or any name, title, addition or description implying that he is registered under the Act, or that he is a person specially qualified to practise dentistry unless he is registered under the Act. The section provides that any person who commits a breach of these provisions shall be liable on summary conviction to a penalty not exceeding £20. Now the defendant is not registered. In this case the facts are shortly these. The defendant practised for some time at Alfred Street, Radford, carrying on his business as a dentist, having an ordinary dentist's establishment, advertising himself in the local press, and by other ways endeavouring to make a practice. He lately moved from Alfred Street to No. 37, Sherwood Street, where he has taken premises and has his name up on the door plate, or at any rate on the glass panel of the door, with the words, "Dentist, Berlin." Of course the mere addition of "Berlin," the name of a place, does not in any way qualify or affect the statutory meaning attached to the term "dentist" by section 3, which I have read. The mere addition of the word "Berlin" to the title itself as used by the defendant does not, of course, relieve him of liability under section 3, because your worship will observe that section provides

that no person shall be entitled to use the name dentist in combination with any other word or words, unless he is registered.

Alderman BARBER : Supposing a dentist was qualified under any law in Germany, his licence would not hold good in England.

Mr. CRAWLEY-BOEVEY : That licence would not be of any use to him, unless he is on the Register in England.

Mr. WHITTINGHAM : That is provided for in section 9 of the Act.

Mr. CRAWLEY-BOEVEY : My friend will have an opportunity of drawing your attention to the section on which he relies when the proper time arrives. I was observing, that the addition of the word "Berlin" does not relieve him from liability under section 3, because your worships will observe on reading that section, that the title "dentist" itself implies that the person using it is registered under the Act and specially qualified to practise dentistry. Any person who is not registered under the Act has no right to use that title, and no one can get his name placed on the Register unless he is specially qualified under section 6, which specifies the qualifications necessary for registration. I cannot anticipate the defence, but it may be contended that the defendant holds some certificate or diploma, granted to him in Berlin, which entitles him to practise there, but I shall submit, even assuming that to be the case, it will not relieve him from liability to the charge which has been preferred against him, because he has not had his name placed upon the Dentists' Register of the United Kingdom as a foreign dentist. Assuming that he has such a certificate or diploma granted by a University in Berlin, he would be able to get himself registered as a foreign dentist, if it is a certificate recognised by the General Medical Council as provided by section 10 of the Act. Section 9 provides for the registration of foreign dentists with a recognised certificate, and section 10 provides that a certificate which is to be deemed such a recognised certificate as is required for the purposes of this Act, shall be such a certificate, diploma, membership, degree, licence, letters, testimonial or other title, status, or document as may be recognised for the time being by the General Council as entitling the holder thereof to practise dentistry or dental surgery in the country in which it is granted to him, and as furnishing a sufficient guarantee of the possession of the requisite knowledge and skill. Your worships will find on page 24 of the Dentists' Register, a table of registered qualifications under the Act, and among these registered qualifications your worships will find no reference to any diploma or certificate granted by any college or body at Berlin. Further, if your worships will allow me to call your attention to page 226, on which page all foreign dentists registered in this country appear, your worships will find no mention there of any holder of a certificate granted by any Berlin medical body. The defendant has not been registered, and I would ask the Court to infer from these facts that if he has a certificate it is not a "recognised certificate" within the mean-

ing of section 10 of the Act. So long ago as the 5th of April last, Mr. Canton, the Hon. Secretary of the British Dental Association, wrote a letter to the defendant calling his attention to the fact that he was infringing the provisions of the Dentists Act, and warning him that if he did not desist from doing so he would be prosecuted. The defendant merely replied, that he was entitled to use the title "dentist" and intimated that he was prepared to meet any charge that might be preferred against him. The defendant having received notice and his attention having been drawn to the fact that he was committing an infringement of the Act so long ago, it is only reasonable to suppose, that if any qualification he holds was registerable he would have had it registered. From the fact that his name does not appear on the Register, and that there is no mention in the table of registered qualifications, or any reference to a diploma or certificate granted in Berlin, I will ask your worships to infer that he does not hold a certificate entitling him to registration as a foreign dentist. Section 4 of the Dentists Act, formerly provided that prosecutions of this nature could only be undertaken by consent of the General Council. That section has been repealed by section 26 of the Medical Act, 1886, 49 and 50 Vict., ch. 48, and a prosecution may now be instituted by a private person in accordance with its provisions. There is only one other section of the Dentists Act, to which I wish to draw the attention of the court—section 29—under which I tender in evidence a copy of the Register, which I will hand to the court for the purpose of showing that the defendant is not registered. That section provides that a copy of the Register of Dentists for the time being shall be evidence in all cases, until the contrary be made to appear, that the persons therein specified are registered according to the provisions of the Act, and the absence of the name of any person from such copy shall be evidence, until the contrary be made to appear, that such person is not registered according to the provisions of the Act; provided that in the case of any person whose name does not appear in such copy, a certified copy, under the hand of the Registrar of the General Council of the entry of the name of such person on the Dentists' Register shall be evidence that such person is registered according to the provisions of the Act. In other words, the only way the defendant can meet this objection is by producing a certified copy under the hand of the Registrar of the General Medical Council, showing that his name has been entered, although it does not appear on this copy of the Register.

THE CLERK TO THE MAGISTRATES : Do you put this in?

Mr. CRAWLEY-BOEVEY : Yes, I put that in under section 29. There is only one other point which I shall mention before proceeding to call evidence. That is with reference to the defence that may possibly be raised. Assuming that the defendant does not rely upon a foreign diploma or certificate, the only ground on which he could

seek to evade his liability is by relying on the exemptions specified in section 4 of the Dentists Act. Your worships will see that section 4 provides that with respect to the offence of a person not registered under the Act, taking or assuming any name, title, addition, or description as mentioned in section 3, the following provisions shall have effect, viz., he shall not be guilty of an offence under the Act if he shows that he is not ordinarily resident in the United Kingdom, and that he holds a qualification which entitles him to practise dentistry or dental surgery in a British possession or foreign country, and that he did not represent himself to be registered under the Act. In the first place it is essential that anyone relying upon that section should show not merely one of those three points but all three conjunctively, for the words of the Act are, "not ordinarily resident in the United Kingdom, *and* that he holds a qualification, *and* that he did not represent himself to be registered under the Act." With reference to the first part of the clause I should submit, if necessary, that that clause was intended to cover the case of a person coming to this country, not for the purpose of practising but merely for some temporary purpose, such as attending a medical congress. Such a person, if he possesses a recognised diploma—

Alderman BARBER : I think we need not go into this.

Mr. CRAWLEY-BOEVEY : I will now call evidence as to the use of the title "dentist" by the defendant.

THOMAS SMITH was then called and examined by Mr. Crawley-Boevey :

Q. Are you a clerk in the employ of Bowman and Crawley-Boevey ?

A. Yes.

Q. You reside at 4, Percy Terrace, Canning Road, Harrow ?

A. Yes.

Q. You are the prosecutor in this case ?

A. I am.

Q. On the 5th of the current month did you go to the defendant's premises in No. 37, Sherwood Street ?

A. Yes.

Q. Whom did you see there ?

A. The defendant himself.

Q. Did the defendant hand you this circular :—

E. Arnemann, dentist, begs to inform his patients, friends, and the public that he has removed from Alford Street, Radford, to more central premises, 37, Sherwood Street (opposite the new police courts, between the university and the theatre), and begs to solicit a continuance of their support. Note the address, E. Arnemann, surgeon dentist (Berlin), 37, Sherwood Street, Nottingham ?

Did you receive that ? (Document produced and handed to the witness from the defendant.)

A. Yes, sir, I did.

Q. Just look at that. Did you compare that sketch (plan produced; with the front of the defendant's premises?

A. I did.

Q. Does it correctly represent the front of those premises?

A. Yes, sir, it does.

The document was then handed in.

Q. Did you observe the usual appliances of a dentist in the room?

A. Yes, I did.

Cross-examined by Mr. WHITTINGHAM.

Q. I don't dispute that plan. Are you a solicitor's clerk?

A. Yes.

Q. Living in London or Harrow?

A. Living at Harrow.

Q. In whose service are you?

A. Messrs. Bowman and Crawley-Boevey.

Q. Are they the agents or solicitors to the Dental Association?

A. They are solicitors to the British Dental Association.

Q. You are then what they call the common informer under this Act?

A. I am.

Q. Is this the first case you have had under that Act anywhere?

A. Yes.

Q. When did you first become aware that the defendant was practising in Nottingham.

A. I was informed by my firm.

Q. When did you first become aware that the defendant was practising in Nottingham as a dentist?

A. On the day that I visited Nottingham, namely the 5th of August in question.

Q. Had you known him before?

A. No.

Q. Had you had any communication from him or heard from him before?

A. No, not personally.

Q. Do not you know that it is a common thing throughout the country for persons holding a foreign diploma to practise in this way?

A. I do not know it.

Q. Did the defendant tell you that he held a diploma from Berlin?

A. No, he did not.

Q. Did you tell him who you were.

A. No.

Q. And you went on the pretence of consulting him or seeing him about his business?

A. I went ostensibly to consult him.

Q. Were you accompanied by anyone?

A. No.

Q. By no dentist of Nottingham?

A. No.

Q. Was any dentist with you outside?

A. No.

Q. Now have you received any communication from the dentists of Nottingham on the subject?

A. Upon what subject?

Q. Upon the subject of this man practising?

A. I have not personally received a communication.

Q. Do you know communications have been made to your firm?

A. To my firm, I believe.

Q. Did you take this proceeding without consulting the Association?

A. Personally I have not consulted the Association, but I have been instructed by its solicitors.

Q. Do you know whether this prosecution is instigated by the Dentists' Council, or whatever it is called?

A. Yes, I believe it is.

Alderman BARBER: I always take it for granted that these cases are moved by someone in Nottingham.

Mr. WHITTINGHAM: I should think it is so.

Alderman BARBER: I suppose the Act of Parliament was passed to stop this sort of thing—supposing this to be proved?

Q. Mr. WHITTINGHAM: Can you tell me where this Association you represent is defined? What Act of Parliament—I mean the British Dental Association?

A. I cannot tell you.

Q. You cannot tell me under what Act of Parliament. Is it by charter or by virtue of an Act of Parliament that it exists?

A. It is incorporated, but I cannot give you the reference.

Q. Did that Association prosecute previously to the passing of the Act of 1886?

A. Do you mean prosecute other persons?

Q. Yes.

A. Yes, I believe so.

Q. Was that the Association which authorized this information to be laid?

THE CLERK TO THE MAGISTRATES: Anybody can prosecute with the consent of the General Medical Council.

Mr. WHITTINGHAM: I want to see where the Council of the British Dental Association is defined in the Act of 1878. (To witness) Do you understand any foreign diplomas. Can you read that for instance? (document produced).

A. No, it is in German. I don't understand German.

Mr. WHITTINGHAM: I will put it in.

THE CLERK TO THE MAGISTRATES: You cannot put it in yet.

Q. Mr. WHITTINGHAM: He did not give you any information as to where he had been practising before.

A. Mr. Arnemann did not give me any information as to where he had been practising before.

Q. Have you ascertained from any other source where he has been practising before?

A. Yes, I have.

Q. Have you had any complaint as to misconduct or impropriety upon his part?

A. No.

Re-examined by Mr. CRAWLEY-BOEVEY: You are merely the prosecutor as common informer under Section 26 of the Medical Act?

A. Exactly.

FRANCIS BURTON, examined by Mr. Crawley-Boevey:—

Q. Do you reside at No. 1, Postern Street, Nottingham?

A. Yes.

Q. You are a pupil of Mr. Blandy, a dentist in this town?

A. Yes.

Q. You are a registered dentist's student?

A. Yes.

Q. Your name appears on that Register?

A. Yes.

Q. Do you know the defendant's premises, No. 37, Sherwood Street?

A. Yes.

Q. Just look at that sketch. Did you go there on the 31st of July last to prepare that sketch?

A. Yes.

Q. Does it correctly represent the premises?

A. Yes.

Q. The defendant practised some time at Radford?

A. Yes.

Cross-examined by Mr. WHITTINGHAM:—

Q. How long have you known he has been practising in Nottingham?

A. I have known him several months.

Q. Don't you know he has been practising in Nottingham for three years without any complaint?

A. I don't.

Q. When did you first see him?

A. I first saw him about a fortnight or three weeks ago.

Q. You are only speaking from information you have received.

A. No.

Q. No what?

A. From information received.

Q. How long have you known him?

A. Because I passed his place in Radford.

Q. Yes, but how long ago?

A. Three or four months ago.

Q. Had he "Dentist" on the plate then?

A. He had nothing there but a case of teeth.

Q. That was his only advertisement?

A. Yes.

Q. He was advertising in the paper at that time.

A. Yes.

Q. Don't you know that he has been for a long time past?

A. Only from then, I knew.

Mr. CRAWLEY BOEVEY : That is the case for the prosecution.

Mr. WHITTINGHAM : May it please the magistrates, I have listened with a good deal of interest.

Mr. CRAWLEY-BOEVEY : I apologise for interrupting, but I want to put in these letters which I referred to.

Mr. WHITTINGHAM : I admit that he had notice from the solicitors some time ago.

Mr. CRAWLEY-BOEVEY : I put in a copy of the original letter addressed to him to show that the prosecution has not been sprung upon him by surprise. This is addressed to him by Mr. Canton, the Hon. Secretary of the British Dental Association. The date of it is the 5th April, 1886. He says :—

SIR,—I beg to call your attention to the fact that the use of the term or designation dentist, either alone or in conjunction with any other word or words, or the use of any description implying that he is a person specially qualified to practise dentistry, by anyone whose name is not on the Dentists' Register, is illegal and punishable. As, however, the Dentists' Act is comparatively of recent origin, and so you may be ignorant of its provisions, or you may possess some qualification which you suppose entitles you to the use of this designation, I shall be glad to hear from you on the subject before bringing your case under the notice of the executive of the British Dental Association.

I may state that the Association has no desire to deal harshly with any inadvertent infringement of the law, but that the main object of its existence is to carry out the spirit of the Dentists Act, and that it will resolutely proceed against all who persistently infringe its provisions.

I am, Sir, your obedient servant,

F. CANTON, *Hon. Sec.*

To Mr. W. E. ARNEMANN, 6, Alfred Street.

His reply of the 8th of April is :—

6, Alfred Street, Alfreton Road, Nottingham.

DEAR SIR,—I am greatly obliged for your kindness to make me attentive of the danger to which I have exposed my person by using the term dentist, though I attach no importance whatever to that appendage. I have made use of it in the good faith that I am entitled to it. I have not acted in whim but was quite aware what I was about in doing so. I hope you will not delay your rigorous measures any longer, as I am quite prepared to meet you, and wish not to be kept in suspense any longer than is necessary.

I remain, your obedient,

W. E. ARNEMANN.

Mr. WHITTINGHAM : Appearing for the defendant, I listened carefully to the opening of my friend. I am sure that he explained the Act most intelligibly to you, and there is no doubt whatever that the defendant is not a registered practitioner. He instructs me that he does hold this diploma from the University of Berlin, which perhaps you will allow the defendant to transcribe if needful hereafter.

Alderman BARBER : Suppose he does, unless he can show—

Mr. WHITTINGHAM : I am not going to oppose it out and out. I only want to explain my client's position exactly. I think the diploma is dated 1876.

THE CLERK TO THE MAGISTRATES : 1871.

Alderman BARBER : If he holds that and has not complied with the Act—

Mr. WHITTINGHAM : Having held this diploma he was under the impression he could practise. At the time this Act was passed he was an assistant at Bradford with Mr. James Autcliffe, a registered practitioner. Being ignorant at that time, for he could not speak the English language, he might have been registered as a person in practice at the time of the passing of the Act. He did not avail himself of that privilege. One of the sections of the Act said that a person in practice as a dentist, although he might have little or no qualification, could be registered if he were in practice at the time of the passing of the Act. He had been practising for three years in the town of Nottingham, under the title of "Dentist, Berlin," believing that he might fairly do so because the word Berlin being added to his designation, could not mislead anyone in the belief that he was a registered dentist under the Act of 1878. You will see by the schedule of persons registered that certain dentists are registered as foreign dentists from various universities. For instance, the last person on page 226, William George Arthur, is registered under the 13th of October, 1884, and what I submit to you is this—that under section 9 of the Act of 1878, this gentleman is perfectly entitled to assume that diploma to be a good diploma, and that he is entitled to be registered by virtue of it.

Alderman BARBER : But he is not registered.

Mr. WHITTINGHAM : You see how the prosecution is brought about. I am not complaining of the prosecution. It is brought about by gentlemen and various persons interested who are registered. They are not registered by virtue of any examination, and many of them hold no diploma whatever, although this remark does not apply to many distinguished members of the profession. What I am coming to is this : This man does hold a diploma, which I say will justify him in being registered under that Act. For three years past he has practised without molestation in the town of Nottingham. You have it further that at the date of that letter in April, 1886, the Act authorising the common informer had not been passed. That Act was passed on the 25th of June this year, and it was impossible for the de-

defendant to have knowledge prior to that, that any person might inform, for it was only at the instance of the British Medical Association that any action could have been taken prior to June of this year. If the British Medical Association had taken the matter up, the defendant would have had the advice he has now taken, and would have sought to be registered by the diploma by virtue of which I submit he is entitled to be so registered. Although the defendant may have committed an offence within the strict letter of that section, looking at the fact that he has practised for so long, there are many circumstances which absolutely go in mitigation of the offence which he has committed. I do not complain—it is probably right—to obtain an authority from the central council of this Association, and I do not say that a common informer is not justified in laying an information of this character. It may be perfectly right, but that is a recent law, and it is the first prosecution by virtue of this statute which has taken place in this country, and the defendant might fairly have believed that as the Medical Council did not take up his case they were satisfied with the representation he had previously made to them. I am informed that the defendant is a successful practitioner, and that there is no complaint whatever as to his ability. This is simply a technical offence, and he will take steps now to try whether the diploma he holds is one that authorises him to be registered under the Act, and I must leave the question of punishment in your hands. I believe the man is in poor circumstances. He has tried to do what every man is doing for himself—to earn a living. He has a perfect right to draw or stop teeth. He is justified in his practice in the real business of a dentist, but he is not entitled to use the word dentist. That is really the only offence he has committed. He might have put it in various other ways if he had taken advice. I do not know that there is any harm whatever in carrying on this practice. It is not as if he was practising as a medical man, and thereby deceiving people as to his conduct and position. I ask you to treat this as the first offence under this Act, and to say that although the defendant must not carry on this business under the designation of a dentist, still this being the first offence, he could have had no knowledge that the Medical Council were taking this matter up. In point of fact the common informer had no *locus standi* to do what he has done until after June this year. The defendant of course will discontinue to use this designation until he is entitled to use it. Of course he will try to get a living as he will have a right to. There is no suggestion of impropriety of conduct, of extortionate charges or malpractice. This prosecution is instituted by a rich society, and they can have no object in the matter, but simply and solely to say that they will stop the use of this designation until he is entitled to use it. With these observations I leave the case in your hands, asking you to deal fairly between the parties, remembering that this Act was only passed in June, and that he had no knowledge of it.

Alderman BARBER : There is no doubt the legislature have felt it necessary to protect the public against persons who practise improperly, and without being duly qualified. No doubt for that reason this Act was passed and amended. It is so recently that this amended Act has come into operation that we think we shall be justified in dealing comparatively leniently with this case. The magistrates convict you in this case of this offence, and call upon you to come up for judgment when called upon and to pay the costs.

Mr. CRAWLEY-BOEVEY : Do your worships make any order as to costs ?

THE CLERK TO THE MAGISTRATES : That is the judgment—to pay the ordinary expenses of the court.

Mr. CRAWLEY-BOEVEY : Would your worships not give something additional, having regard to the expenses which have been incurred in connection with this prosecution.

Mr. WHITTINGHAM : This is the first case.

Mr. CRAWLEY-BOEVEY : This is not by any means the first case under the Dentists Act.

Mr. WHITTINGHAM : You have had a full hearing.

Alderman BARBER : Only the costs of the court, and to come up for judgment when called upon. If he carries on business under the same conditions he will be called upon, and he will be fined.

Smith v. Friederik.

TRANSCRIPT of Messrs. W. and C. Cock's Shorthand notes. Stratford Petty Sessions. Wednesday, August 18th, 1886.

Before NATHANIEL POWELL, Esq., Chairman, and W. W. GLENNY, Esq.

Mr. CRAWLEY-BOEVEY : I appear for the prosecution in this case.

The CLERK (Mr. Wells) : This gentleman is summoned under "The Dentists Act, 1878."

Mr. CRAWLEY-BOEVEY : Yes.

Mr. SHARMAN : I appear for the defendant in this case. Perhaps Mr. Wells will read the charge.

The CLERK (Mr. Wells) : I will read the information.

Mr. SHARMAN : If you please, I have an objection to it.

The CLERK : The information is this :—"That A. Friederik, of No. 5, East Avenue, Orford Road, Walthamstow, in the county of Essex, did unlawfully within the space of six calendar months last past, to wit, in the months of July and August, 1886, at 5, East Avenue, Orford Road, aforesaid, not being registered under the Dentists Act, 1878, take and use the letters D.D.S., or some other name, title, addition, or description, implying that he was registered under the

said Act, or that he was a person specially qualified to practise dentistry, contrary to the form of the said Act."

Mr. SHARMAN : My objection to this information is, that my client is charged with taking and using the letters D.D.S. "or some other name, title, addition, or description." My objection is this, that that implies two offences ; and, as is well known, by the Act of Parliament they are limited to one, and the information on that ground is bad ; but I do not object to an amendment, provided it is amended to keep it either to one or the other. I cannot answer two charges with one information, and therefore I ask that it may be amended and limited to one offence only.

Mr. CRAWLEY-BOEVEY : I should submit to your Worships that the charge, in point of fact, is only one—that the defendant has committed a breach of the provisions of section 3 of the Dentists Act, and that he has taken and used the letters D.D.S., "or some other name, title, addition, or description, implying that he was registered under the said Act." If your Worships will refer to section 3 of the Dentists Act, which is the 41st and 42nd Vict., ch. 3, you will see it provides "from and after the first day of August, one thousand eight hundred and seventy-nine, a person shall not be entitled to take or use the name or title of 'dentist' (either alone or in combination with any other word or words), or of 'dental practitioner,' or any name, title, addition, or description implying that he is registered under this Act, or that he is a person specially qualified to practise dentistry, unless he is registered under this Act." The defendant is charged with taking or using the title "D.D.S., or some other name, title, addition, or description implying that he was registered under the Act." The charge is, in point of fact, only one charge, although it is expressed in this form. I should submit that it is not necessary to have inserted the letters "D.D.S." It would have been quite sufficient if the defendant had been charged simply with taking or using a name, title, addition, or description, without specifying what it is. I may mention to your Worships that this is the common form.

The CHAIRMAN : He is not registered according to the Act ?

Mr. CRAWLEY-BOEVEY : Nor specially qualified. This is the common form in which these informations are laid. The information has been carefully settled by counsel, and I do not imagine that your Worships will consider the objection well founded ; but if you should consider it desirable that the information should be amended, I would ask you to add after the letters "D.D.S.," the words, "and Doctor of Dental Surgery."

The CHAIRMAN : Will Mr. Sharman be satisfied ?

Mr. SHARMAN : If they keep to one I shall be quite satisfied.

The CHAIRMAN : Then the learned gentlemen are agreed.

Mr. CRAWLEY-BOEVEY : I would ask leave in order to prevent any

question being raised afterwards, during the course of the proceedings, to add after the letters "D.D.S.," the words, "and Doctor of Dental Surgery."

Mr. SHARMAN : That clearly would apply to two titles.

Mr. CRAWLEY-BOEVEY : If he used any number of titles it would be only one offence.

Mr. SHARMAN : But you can only charge him with using one title and not one hundred.

Mr. CRAWLEY-BOEVEY : I differ from you. I submit that the defendant could be charged with using any number of titles.

The CHAIRMAN : You say that the defendant is liable to a penalty for infringing the Act.

Mr. CRAWLEY-BOEVEY : Yes, sir.

The CHAIRMAN : Infringement of the Act is the thing we have to look to.

Mr. CRAWLEY-BOEVEY : Quite so, sir.

Mr. SHARMAN : Quite so ; but they must specify what title they are going upon.

Mr. CRAWLEY-BOEVEY : Whether it is one title or fifty makes no difference.

The CHAIRMAN : Under any number of names it would be only one offence.

Mr. CRAWLEY-BOEVEY : Quite so, sir. I should ask your worships, in order to prevent my friend from taking an objection during the course of the proceedings, to add, after the letters D.D.S., "and Doctor of Dental Surgery." I intend to prove that the defendant has made use of the title in full words—"Doctor of Dental Surgery ;" which is, in fact, what the abbreviation "D.D.S." represents.

Mr. SHARMAN : Why not take the full words and leave out the "D.D.S.?"

Mr. CRAWLEY-BOEVEY : I intend to take both.

Mr. SHARMAN : That must be a separate offence. If my friend is going to prove that on one day the defendant used "D.D.S.," that is one offence ; and if he is going to prove that on another day he used, "Doctor of Dental Surgery," that is another offence and must be entirely distinct.

The CLERK : I do not think so.

Mr. CRAWLEY-BOEVEY : It is a breach of the Act.

The CHAIRMAN : To take the letters "D.D.S."

Mr. CRAWLEY-BOEVEY : Taking and using the letters "D.D.S." and the words "Doctor of Dental Surgery." I have read the section under which the defendant is charged to your worships—the section of the Dentists Act, and I will now refer the court to section 26 of the Medical Act of 1886, 49 and 50 Vict., ch. 48. The 1st clause of section 26 provides : "It is hereby declared that the words 'title, addition or description,' where used in the Dentists Act 1878, include

any title, addition to a name, designation, or description, whether expressed in words or by letters, or partly in one way and partly in the other." That section was expressly passed to meet a case such as the present, and to make it perfectly clear that the mere use of letters alone would be quite sufficient to render a person liable under the terms of section 3 of the Dentists Act. The facts of the case are shortly these : Mr. Friederik, the defendant, has been practising as a dentist for some years past in East Avenue, Orford Road, Walthamstow, keeping the usual establishment, and having a brass plate upon his door with the words " Dr. Friederik, D.D.S., U.S., America," and a case of artificial teeth in front of the premises. I will refer your Worships to page 24 of this copy of the Dentists' Register, which I will hand to the Court. It is a copy which purports to be printed and published in pursuance of the Dentists Act. Your Worships will find at page 24, a table of registerable qualifications under the Dentists Act, with the abbreviations used to denote them ; and you will see there that the letters " D.D.S." are used as a designation of the diploma " Doctor of Dental Surgery," which is granted by the American College of Michigan. That is a diploma recognised by the General Medical Council, as provided by section 10 of the Dentists Act. Your Worships will see " D.D.S., Doctor of Dental Surgery, Michigan." Section 9 of the Dentists Act provides for the registration of a foreign dentist with a recognised certificate, and section 10 provides that " the certificate granted in a British possession or in a foreign country, which is to be deemed such a recognised certificate as is required for the purposes of this Act, shall be such certificate, diploma, &c., as may be recognised for the time being by the General Council, as entitling the holder thereof to practise dentistry or dental surgery, in such possession or country, and as furnishing sufficient guarantees of the possession of the requisite knowledge and skill for the efficient practice of dentistry or dental surgery." If your Worships will refer to page 226 of the Register, you will find that there is one foreign dentist registered as the holder of that diploma " Doctor of Dental Surgery," and only one. That Register is made *prima facie* evidence, under section 29 of the Dentists Act, and I should submit that those entries show the meaning of the letters " D.D.S." which the defendant has used. They show that those letters are the designation of the diploma " Doctor of Dental Surgery," granted by a recognised foreign university ; and it is perfectly clear that the defendant, using those letters, has made use of a title within the meaning of section 3, a title or description implying that he is a person specially qualified to practise dentistry, inasmuch as the holder of that diploma is registered. Now, the defendant himself is not registered under the Dentists Act. Your worships will see that his name does not appear upon the list either of dentists of the United Kingdom, or of Foreign Dentists in that document, which is the register of dentists for the current year,

published under the Dentists Act. If any doubt should arise in the minds of your Worships with reference to the meaning of these letters "D.D.S.," it will be removed by a card which the defendant has published, in which he distinctly describes himself as "Doctor of Dental Surgery." I shall put the card in. It is his own card, and the fact that the title appears on the Register shows very clearly what the meaning of the letters is. It may be that the defendant holds a diploma granted by some American university. He uses the letters "U.S." and "America," and it is quite possible that he may hold some diploma; but even supposing that he does so, and further assuming that such diploma is a recognised diploma within the meaning of section 10 of the Act, it will not protect him from liability for the offence with which he is now charged, because he is not now on the Register. In fact, there are only two points to which the attention of the Court should be directed: first, has the defendant made use of a title or addition, implying either that he is registered under the Act, or specially qualified to practise dentistry; and secondly, if so, is he on the Register? The fact that no one is entitled to make use of a description implying that he is a person especially qualified unless he is registered, would show that anyone using such a description holds himself out as being registered. No one who is not registered has any right to describe himself as "Doctor of Dental Surgery," or to describe himself under any other title implying that he is specially qualified unless he is registered, so that, your worships will see, the one offence includes the other. It may be that the defendant will contend that, being a foreigner, he was in ignorance of the provisions of the Act, and may possibly throw himself upon the consideration of the Court on that ground; but with reference to that, I would mention that so long ago as the 19th of January last, Mr. Frederick Canton, who is the Hon. Secretary of the British Dental Association, wrote him a letter calling his attention to the fact that in using these letters he was infringing the provisions of the Dentists Act.

Mr. SHARMAN: I must object to this. This is something entirely before this arose. The defendant, if I am instructed rightly, actually commenced the correspondence by writing to the Secretary, asking if he was within the law, and saying he would do anything to bring himself within the law. They could not take proceedings until the new Act was passed on the 26th of June. He was never within the Act until the 26th of June.

Mr. CRAWLEY-BOEVEY: That is not so. My friend is mistaken. On the 19th of January, Mr. Canton wrote to the defendant, calling his attention to the fact that he was infringing the provisions of the Act, and warning him that if he did not desist he would be prosecuted. On the 21st, the defendant replied. I will put the letter in presently, or I will read it now if my friend has no objection.

Mr. SHARMAN: I have no objection.

Mr. CRAWLEY-BOEVEY: On the 21st of January, the defendant replied to Mr. Canton, as follows:—

DEAR SIR,—In reply to yours of the 19th inst., I beg to inform you that as I am a foreigner I am not well acquainted with the English laws, and therefore any infringement against the Dentists Act I have been guilty of has been made in ignorance. Permit me to mention that I do not call myself dentist, or in anyway represent myself as a registered dental surgeon. If you would be so kind as to correct me in any contravention of the said Act, you may rely on my acting according to your advice.

Yours faithfully,

A. FRIEDERIK.

To that letter Mr. Canton replied that he was not in a position to give the defendant advice.

Mr. SHARMAN: Can you prove that letter?

Mr. CRAWLEY-BOEVEY: I call upon you to produce it.

Mr. SHARMAN: We have not got it. It has been destroyed months ago.

Mr. CRAWLEY-BOEVEY: Then I shall put in a copy [reads letter]. I merely refer to those letters. They do not in any way affect the question before the court. I merely refer to them for the purpose of shewing that the defendant cannot take advantage of the fact of his being a foreigner, and cannot plead ignorance, inasmuch as his attention was drawn some eight months ago to the fact that he was infringing the Act. My friend said that these letters were written before the offence was committed, and that at the time when these letters were written, the prosecution were not in a position to proceed. I presume he referred to the last clause of section 4 of the Dentists Act, which provided that—"A prosecution for any of the offences above in this Act mentioned, shall not be instituted by a private person, except with the consent of the General Council, or of a branch council," but that section was repealed by section 26 of the Medical Act, 1886.

The CHAIRMAN: This, I think, is not quite to the point.

Mr. SHARMAN: Not at all. My point was this, that they could not bring in these letters until the amending Act was passed. It does not affect the question. We are charged in July, and, of course, what occurred in June does not matter at all.

Mr. CRAWLEY-BOEVEY: I merely mentioned the letters for the purpose of shewing that the prosecution has not been sprung upon the defendant by surprise. The last clause of section 4 of the Dentists Act has been repealed by section 26 of the Medical Act, 1886, which allows a private person to institute proceedings. Now, as I understand, my friend contends that before the Medical Act came into force the defendant would not have been liable for the use of these letters. I submit that that is not so. It would still have been open to the prosecution to prove that the letters "D.D.S." did constitute an "addition or description" within the meaning of section 3.

The CHAIRMAN : Under the original Act.

Mr. CRAWLEY-BOEVEY : Yes, sir. Under the original Act, section 3, we should have been in a position to prove, just as much as we are now, that the letters "D.D.S." constituted a title or addition. It would have been obligatory upon us, just as it is now, to show what they mean ; but we can shew, as we do now, that they do constitute "a title or addition." Section 26 of the Medical Act does not amplify or explain section 3 of the Dentists Act. It merely says, in express terms, that letters shall constitute "an addition." It places the matter beyond all doubt. In point of fact, there was very little doubt before the Medical Act came into force ; and, as a matter of fact, prosecutions have been instituted, within the last year or two, against persons in the same position as that which the defendant occupies, for using letters simply as "an addition or title." I may mention that though Mr. Thomas Smith is the prosecutor in this case, prosecuting as a common informer, the proceedings have really been taken at the instance of the British Dental Association, which is an Association framed on the lines of the British Medical Association. I mention that in anticipation of a suggestion which is frequently made in cases of this kind, namely, that the prosecution is the result of professional jealousy on the part of some local practitioner. The fact that the British Dental Association are prosecutors, removes all ground for that suggestion. There is no desire on the part of those by whom I am instructed in this case, to press for a heavy penalty or anything of that sort. These proceedings are taken in the interest of the public. It is important that the very large class of persons who practise dentistry under cover of some certificate or diploma obtained from some foreign College and not recognised by the Council, should understand that they cannot make use of such certificate or diploma in this country, unless they are on the Register of Dentists. In considering the question in this case, your worships will have regard to the general scope and intention of the Dentists Act, which clearly was to protect the public against unqualified practitioners. The Act imposes certain qualifications which must be held by people who seek to have their names placed on the Register, and it gives them certain privileges. Section 5 allows persons who are registered under the Act to practise dentistry and dental surgery, and provides that persons not registered shall not practise. That is the effect and intention of the Act, and it seeks to carry out that intention by preventing persons, whether they possess diplomas or not, from implying that they are specially qualified, unless they are on the Register. I will now call the prosecutor, Mr. Thomas Smith, for the purpose of proving that the defendant has used the letters "D.D.S." and the words "Doctor of Dental Surgery."

Mr. THOMAS SMITH, sworn. Examined by Mr. CRAWLEY-BOEVEY.

Q. You reside at No. 4, Percy Terrace, Canning Road, Harrow.

A. I do.

Q. You are a clerk in the employment of Messrs. Bowman and Crawley-Boevey?

A. I am.

Q. And you are the prosecutor in this case?

A. I am.

Q. Did you, on Thursday the 29th of July last, attend at the defendant's premises, No. 5, East Avenue, Orford Road, Walthamstow?

A. I did.

Q. Did you consult him professionally.

A. I did.

Q. What did you observe in the premises?

A. I observed a brass plate on the street door.

Q. Was there any inscription on the brass plate?

A. Yes, the inscription "Dr. Friederik, D.D.S., U.S., America."

Q. Did you see the ordinary appliances of a dentist in the premises.

Mr. SHARMAN: That certainly cannot have anything to do with the title.

Mr. CRAWLEY-BOEVEY: Very well.

The CHAIRMAN: Let us get this first.

Mr. CRAWLEY-BOEVEY: I merely wanted to show that the defendant is practising as a dentist.

Mr. SHARMAN: The title is the thing.

Mr. CRAWLEY-BOEVEY: Then I will confine myself to the title.

Q. Did you attend again at the defendant's premises on the 10th of August.

A. I did.

Q. Whom did you see on that occasion?

A. I saw the defendant himself.

Q. Did you see the same plate on the door?

A. Exactly.

Q. Did you see anything else?

A. Yes; I observed a lamp over the door, with the inscription upon it, "Artificial Teeth, extractions, stoppings, &c."

Q. Was there a show case in front of the premises?

A. Yes, there was a show case attached to the wooden railings in front of the house, with specimens of artificial teeth in it, also two or three pieces of paper or card attached to the back of the case, upon one of which were the words, "Dr. Friederik, D.D.S., U.S., America, Dental Artist."

Q. Did you on this occasion produce to the defendant this card, "Mr. A. Friederik, D.D.S., U.S., Doctor of Dental Surgery and Specialist of Artificial Teeth?" (Handing card to witness).

A. (After looking) Yes, I showed him this card.

Q. Did you ask him if it was his card?

A. I did.

Q. What did he reply?

A. He said, "Yes, that is my card."

Mr. CRAWLEY-BOEVEY: I put that in.

Q. Did you prepare this sketch? (Handing sketch to witness).

A. (After looking) I did.

Q. Does that correctly represent the appearance of the front of the defendant's premises?

A. It does.

Cross-examined by Mr. SHARMAN.

Q. Will you be good enough to tell us how it was you went all the way from Harrow to Walthamstow to consult a dentist for your teeth.

A. I did not go all the way from Harrow. Harrow is the place where I reside.

Q. You went from London?

A. Yes, I went by the instructions of Messrs. Bowman and Crawley-Boevey, the prosecuting solicitors.

Q. To consult the defendant upon your teeth.

A. To consult him ostensibly on professional matters. I went at the instigation of my employers, Messrs. Bowman and Crawley-Boevey, the prosecuting solicitors, to whom I am Chancery clerk.

Q. As Chancery clerk you went there, not only as common informer here, but as a common detective. Is that correct?

A. If it pleases you to place that construction on it.

Q. You went there for the express purpose of catching the defendant?

A. I went there for the express purpose of seeing what was on the door.

Q. And you had two interviews with the defendant?

A. Yes.

Q. You asked him on the second occasion whether that card was his? He did not show it to you?

A. He did not show it to me, because I had the card with me. I showed it to him.

Q. Where did you get the card from?

A. It was handed to me by my employers.

Q. The gentleman who opened the case says that the British Dental Association have taken this up. Do you know as a fact that the proceedings have been instituted by Mr. Eden, of Walthamstow?

A. No, certainly not.

Q. Have they been in any way taken up at his instigation?

A. Not that I am aware of.

Q. Do you know Mr. Eden, of Walthamstow?

A. I have seen him.

Q. Has he, by any means whatever, taken any part in this prosecution?

A. No, not that I know of.

Q. Has he given any information which has led to this prosecution?

A. He has given information certainly.

Q. He has?

A. I do not say "which has led to this prosecution."

Q. But he has given information?

A. He has given information.

Q. Is Mr. Eden registered?

A. I believe so.

Q. Is it a fact that Mr. Eden is registered as a person who was practising dentistry before the Act was passed?

A. I do not know anything of that.

Q. You do not know then whether or not it is a fact that he was registered as a person who was practising without ever having been qualified at all?

A. I do not know anything of that.

Q. It may be so?

A. For aught I know. I do not know anything of it.

Q. Is it not a fact that Mr. Eden, who is a person who has never passed any examination, has lost a great deal of his practice because this gentleman, with greater skill, has taken his business away?

A. That is the first I have heard of that.

Q. The first you have heard of it?

A. Yes.

Q. Can you explain at all how it was that if the defendant was committing the offence in January, nothing was done until July?

A. I do not quite see the meaning of that.

Q. If it was known in January to the British Dental Association that the defendant was infringing the Act, can you explain how it is that nothing was done until July?

A. It has been pointed out by the gentleman who opened the proceedings that sufficient time had been given him. Of course I have nothing to do with that. I do not know anything of it. I do not know why the prosecution was not immediately started.

Q. Did you know, at the first interview, what the letters "D.D.S." meant?

A. I had been told what they meant.

Q. But not from anything the defendant told you?

A. He did not tell me they meant that, of course.

Mr. SHARMAN: I may say that I did not know what they meant, and I doubt very much whether there is anybody in court who knew what they meant. However, I have nothing further to ask Mr. Smith.

Mr. CRAWLEY-BOEVEY: I have nothing further to ask. That is the case for the prosecution,

Mr. SHARMAN: The facts in this case are certainly exceedingly simple. If your worships should be of opinion that the defendant has

infringed the Act, I must ask you to meet it with a very small fine, or to pursue the course which was followed on a very recent occasion—I think only last week—namely, to order the defendant to pay the costs, and come up for judgment when called upon. This is, really, a row between rival practitioners, and nothing else.

Mr. CRAWLEY-BOEVEY : That is not proved.

The CHAIRMAN : That is not proved. The legislature has gone to the trouble of having this Act of Parliament passed to protect this very important branch of surgery, and I do not think we need go into any considerations of the kind suggested. The Act of Parliament is plain and clear.

Mr. SHARMAN : I was about to say what the defendant would have said if he were defending himself.

Mr. CRAWLEY-BOEVEY : I must object to that. I must object to my friend making any statement of what the defendant would say unless he is in a position to give evidence of it.

Mr. SHARMAN : It is one of the principles of law, recognised in every court, that a defendant can make any explanation he likes as to any offence with which he is charged.

Mr. CRAWLEY-BOEVEY : He can argue on the evidence.

Mr. SHARMAN : What is the use of a man having an advocate if he is unable to state through the mouth of his advocate the facts which he can mention himself? We had better go back to the days of the commencement of the century, when a man was not allowed an advocate at all and had to plead his own cause. The way in which this prosecution has been brought about, I venture to think, certainly seems to indicate that there is something in the background of which they are ashamed. I want to shorten the matter as much as possible. The circumstances are simply these :—The defendant came to this country, not “years ago,” as my friend says, but about twelve months ago. He lived in London and was invited down to Walthamstow. He is a foreigner who can speak very little English ; but he studied and passed his degree at a foreign University, enabling him to practise dental surgery in all its branches abroad. Through his lack of English, he has been unable to submit himself to an examination in English ; but he is quite prepared, at any moment, to pass the English examination, if it were conducted in the language with which he is sufficiently familiar. Almost immediately on his commencing business, he communicated with the Secretary of the British Dental Association, saying, that he was at that time practising dentistry, and that if he was in any way infringing the Act he should be glad if some one would tell him, a foreigner, what he ought to do, and he would at once comply with the law. Now, from that date in January until the present moment, he has never had the slightest intimation that he was doing wrong until the summons is served upon him. I venture to think (and I submit it with all confidence) that this prose-

cution could not have taken place until they had the amending Act, because I am quite sure that without the section in the amending Act defining and explaining the offence, your Worships would never have convicted under this present information. If, as my friend says, the original Act was sufficient to meet the case, I venture to think it was a great pity that this body of highly influential gentlemen should have gone to overburdened Parliament, and have troubled them to pass an amending Act for the express purpose of hitting one such as the defendant. They have plenty to do at Westminster without passing Acts of Parliament which are works of supererogation. For the defendant, I can only say that he has not the slightest desire to infringe the Act of Parliament in any way whatever. Had an intimation been given him by the Association in reply to his letter of January, that he was doing so, he would have at once registered himself. If your Worships are of opinion that he has infringed the Act, through me he has to express his great regret, as a person not understanding our language and our laws, that he has infringed the Act, and he will submit himself cheerfully to any course you may think fit to adopt and also pass an examination at the earliest possible moment, so as to be registered in compliance with the Act. The defendant is a fully qualified man though he is not registered.

Mr. CRAWLEY-BOEVEY: That is not proved. There is no evidence before the court to show that the defendant is fully qualified, or that he has any qualifications whatever.

Mr. SHARMAN: The defendant, as I said before, can make any statement he likes. In the course of his opening statement, my friend asked me if the defendant had not a diploma from some university abroad, and I at once said it was so. If it is to be expected that every prisoner who is charged in this and every other court is to prove by evidence his own defence, I venture to think that solicitors had better give up being advocates at all and let the prisoners defend themselves, because they would be very much better off. My friend interrupted me in the remarks I was making. I was saying this, that the defendant is fully qualified by a foreign diploma to practise dentistry. It is not a case of an unskilful person practising a profession which he does not understand; it is merely that a skilful person unacquainted with our laws has published, without having his title registered and put upon the Register. Under these circumstances I would ask your Worships either to dismiss the case or to adopt the course which was pursued only last week on a similar prosecution before another bench, and order the defendant to pay the costs and to come up for judgment when called upon. My friend said he did not wish to press the case, but only to vindicate the law. Therefore, on behalf of the defendant, I would ask your Worships to adopt that course, and I will now leave the matter in your hands.

The CHAIRMAN: Under the Act, a person in the position of this

defendant is bound to be registered. The defendant is not registered, and therefore is liable to a penalty. He will be fined twenty shillings.

Mr. CRAWLEY-BOEVEY : I presume he has to pay the court costs?

The CLERK : Were there any subpoenas?

Mr. CRAWLEY-BOEVEY : Yes, that is inclusive.

The CLERK : Then the defendant will pay £1 9s.

The CHAIRMAN : There will be the costs of the court.

MINOR NOTICES AND CRITICAL ABSTRACTS.

WE think the following extract from a paper in the *Cosmos* (July), by C. N. Peirce, D.D.S., Philadelphia, Pa., will amuse our readers. The argument is so neatly put that we cannot venture to abridge or paraphrase it, so we give it verbatim for the benefit of those who do not see the *Cosmos*.

"In preparing the paper on 'Function : Its Evolution, and Influence on Organization,' which was read by invitation before the New York Odontological Society, November 10th, 1885, it was very far from the writer's intention to provoke a theological controversy, or to disturb any one's religious belief, much less to make a display of his own. His surprise can, therefore, be imagined when Dr. Atkinson, in opening the discussion (if such it may be called) upon the paper, which took place at the expiration of the forty minutes occupied in reading it, announced that the production was a 'materialistic domination of a materialistic teacher,' and, after some further remarks ridiculing two or three well-substantiated illustrations which were cited, the application of which he seemed unable to appreciate, stated that he could hear Leidy, Cope, and Marsh all through the paper,' and, therefore, did not give the writer 'credit for being original.' The inference meant to be drawn from this remark was that the essayist had copied from the publications of these gentlemen the substance of his paper and given no credit therefore. The doctor was certainly ignorant of the work and writings of at least one of these gentlemen, as, a few months before, in speaking of the character and habits of the first named—Prof. Joseph Leidy—the writer heard him state that the old man Leidy was dead, and that the son had not near the talent and spiritualistic character of the father. The scientific world has never heard, and probably will never hear, of but one Leidy, and where two or three men of

science, without regard to locality, are gathered together, Prof. Joseph Leidy's name and labours are as familiar to them as their alphabet. He holds to-day, and for nearly thirty-five years has held, the professorship of anatomy in the University of Pennsylvania, and as a zoologist, palæontologist, and microscopist he stands pre-eminent. He has published upon these and kindred subjects hundreds of papers which are known and valued by every scientific body in the world. Yet this teacher in New York City and critic for the New York Odontological Society, on the evening of November 10th, was evidently as ignorant of Prof. Joseph Leidy's work and writings, as well as of Profs. Cope's and Marsh's, as a new-born child, or he would never have made the above statement. Can it be that the inspiration upon which Dr. Atkinson relies so implicitly for his facts has forsaken him?

"Dr. Dodge, who very properly stands as the representative of culture in the dental profession, stated in his remarks that it was the evident intention of the author of the paper to offer a substitute for the old notion that all organized beings are planned by an Infinite Intelligence, and caused to exist by an Infinite Creative Power,—a 'substitution of something that inheres in the organism for the action of God Almighty.' The text of the paper shows that this was simply begging the question, and was as uncalled for as it was unscientific. Whatever may have been the essayist's individual views regarding the existence of a personal God or a superintending or overruling Providence, he certainly said nothing on that occasion which warranted the assumption and assertion.

"The members of the New York Odontological Society were only invited to a consideration of the evidences that were presented as to the influences that function or use, nutrition, and heredity exert on the *origin*, the *health*, the *morphology*, and the *structural arrangement* of organs and tissues; or, in the language of Lamarck, that 'the production of a new organ in an animal body results from the supervention of a new want continuing to make itself felt, and a new movement which this want gives birth to and encourages; . . . that the development of organs and their force of action are constantly in ratio to the employment of these organs.' But this cultured gentleman entirely ignored the arguments presented, assumed the rôle of guardian and essayed the defence of the Supreme Being, who he thought was in this paper robbed of the credit due to Him for infinite intelligence,

infinite creative power, and superintendence of the development of all organisms. The doctor having placed a construction upon the essayist's language largely the result of his own imagination, confidently asserted that 'the argument is so intrinsically poor and weak that it amounts to nothing better than this.' If the doctor had been more explicit, and had stated just what proposition in the argument he was combating, it would have been more satisfactory. If the essayist understood himself and the meaning of his own words, no argument regarding the existence of God, or criticism of His wisdom and power, was made or attempted. It was asserted, and an effort was made to sustain the assertion by numerous illustrations, that the necessity of an organ induced by change of environment preceded the development of such organ, and that function (use or non-use) did direct or modify its morphology and capability. Not one of the cited illustrations did the doctor deign to notice, but set up an imaginary scare-crow, that he might have the pleasure of picturing in well-chosen words its peculiar features. Intrenched behind a vulnerable rampart, he might be likened to the setting bird which, fearful of the disturbance of its nest, endeavours to divert attention by fluttering in another bush. This little theological dodge was so gracefully performed that it was not unpleasant to witness.

"Belief as to the existence or non-existence of a Divine Being possessing attributes of wisdom and power in a superlative degree, should not in any way prevent the study of the influences of mechanical and hereditary forces on organised matter, nor should the results which may be recognised from such forces disturb the faith of the investigator. The query of the essayist, if it must be made to have a theological significance, was not with reference to the limitation of creative power, but as to its plan, order, and method of action. Was this too momentous a question for the New York Odontological Society, which claims to be the embodiment of dental science? So it seems.

"The writer of the paper is induced to believe that the whole plan of creation is but an endless succession of cause and sequence, influencing all matter, animate and inanimate, and to consider this as the result of a 'forthgoing, consistent, consecutive, advancing, and developing plan'—inherent in or subordinated to an immutable law governing matter. In either case, the various phenomena presented by the constantly changing combinations of

atoms, certainly constitute a legitimate subject for consideration by a scientific body. The student of nature, though firm in the consciousness that all things work together for good, cannot rest from labour while forces are undiscovered and their influences remain unsolved. On the other hand, if these phenomena are the unstable results of a Creator's changing moods, varying under like conditions, uncertain and aberrant in execution, then the less science has to do with the wonders of nature the better.

"The function of science is to discover and measure forces, to observe laws, and record results. If it can lift the veil which has hidden the past, and see in the far dim distance the incandescent sphere, and from that ball of fire trace its unstable elements through their illimitable changes, until from out of a fortuitous combination of these inorganic atoms living matter is evolved, and from this primordial mass observe the unfolding of unicellular and multicellular organisms, and from these again through the labyrinths of vegetable and animal products discover how man, the highest vertebrate, has been evolved, it is certainly interesting, legitimate, and worthy of every effort for which time and talent give opportunity."

The Advance of Pathological Photography.

In an article on Photography in Pathology, which appeared in the Journal of January 23rd, page 162, we noticed the advance of the faithful representation of pathological specimens by the art, and we may add, the science of photography, for the two must be combined to produce an effect which can in any way be called successful. In that article it was observed that the specimens were taken when immersed in water. We do not know how far this practice has been tried in this country, but we have recently received some very successful photographs, both macroscopic and microscopic, taken by Dr. Heneage Gibbes. The macroscopic photographs represent specimens of mitral disease and pericarditis. We have seen many good hand productions of hospital artists, who always were able to command their price, but there have been none who can touch the beautiful and truthful delineations which Dr. Gibbes has laid before us. They give an impression as though the actual specimens were laid out on paper before us; and, with the exception of a slight tint in various

parts, which, like the references of figures, assists to show different points of pathological interest, the whole is absolutely accurate and untouched. The photographs are taken by a method which is permanent, and will not fade. Many are familiar with the artistic photographs of Frank Miles in black and white; these are printed by the platinotype process, and the same process which Dr. Gibbes has used. The microscopic photographs are equally good; one representing striped muscular tissue is perfect, and speaks well alike for the artist and the object glass. Many years ago this was considered a test for low power, but here the serrations are very clear. The Pacinian corpuscle is equally good; the epithelial cells from the stomach of the newt, which resemble the trumpet-shaped vorticella, is admirably taken. These are photographed with medium powers. Some of the photographs, taken with the higher powers, are equally successful; such as those of the comma-bacillus of cholera, but those of encephaloid cancer, have not come out so well. There are, however, great difficulties in attempting to photograph collections of cancer cells. Many of these specimens, from which the photographs are taken, have been prepared by Dr. Heneage Gibbes by his most approved method. Since the article on Photography in Pathology, we have learnt that the Autotype Company have a new mechanical process for printing permanent photographs in various colored pigments. A perfect system of representing pathological specimens, as seen under the microscope, by photography, is much to be desired, and it seems that such a system will very shortly be perfected.—*British Medical Journal*.

Bacilli in Old Museum Specimens.

IN the thirty-third volume of the *Transactions of the Pathological Society*, Mr. F. S. Eve describes the microscopic appearances of a renal tumour among the Hunterian specimens in the Museum of the Royal College of Surgeons. Not only could he recognise the minute histology of the morbid growth, but he also was able to detect striped muscular fibres, precisely as seen in a recent specimen, which was exhibited by Mr. Eve at a meeting of the Society. The Hunterian specimen must have been over ninety years old. Mr. Eve's discovery was of considerable importance, for it showed, as has since been proved, that the great stores of tumours in large pathological museums might still be utilised for the purposes of

pathological research. Dr. Vincent Harris has recently shown that not only morbid histology, but what has been termed bacteriology, may be studied in old museum specimens. To the twenty-first volume of the *St. Bartholomew's Hospital Reports*, recently published, Dr. Harris has contributed a memoir on the Presence of the Tubercle-Bacillus in Old Specimens of Diseased Lung. The author has examined specimens of diseased lung in the Museum of St. Bartholomew's Hospital, selecting a dozen of the oldest and most typical specimens. Of these, nearly all were contributed to the museum previously to the year 1846, and several were prepared, it is believed, by the late Dr. Farre in 1812. The search for bacilli was, in almost every case, successful. A description of the microscopic character of each specimen is published, showing that characteristic colonies of micro-organisms could readily be detected. The bacilli were observed in three of the chief forms of wasting lung disease, namely, in isolated or miliary tubercles, in caseous masses, and in fibroid thickenings, as well as in thickened pleuræ. "The finding of the bacilli in a single case of sufficiently old diseased lung," Dr. Harris observes, "would be enough, one would suppose, to render it very probable that the relationship between the bacilli and the diseased processes of tubercle is no new one, or, in other words, that bacillar phthisis is no new disease." The staining which was found to be most successful was the Ehrlich-Weigert method. It would be interesting, indeed important, to ascertain whether bacteria might not maintain their vitality for a short time in a spirit-specimen. Alcohol does not always penetrate dense structures with rapidity, and the induration which it produces in the tissues might protect the bacilli from its action for a long period. As long as the germs remained untouched, the specimen would be unsafe to handle without precautions.—*British Medical Journal*.

The Poisonous Effects of Cocaine taken Internally.

The following letter is of such direct interest that we quote it intact from the *Lancet*:—

To the Editor of THE LANCET.

SIR,—I should be glad if you could allow me space in your journal to relate a case which I have met with lately in my practice, in the hope that it may lead to an expression of opinion on

the subject by anyone who has met with a case of poisoning by this new and useful medicine.

A patient of mine who was suffering from toothache resulting from a hollow tooth, applied some of the 4 per cent. solution of hydrochlorate of cocaine to the tooth and gums. He did not spit it out, but, according to his statement, he swallowed from twenty to thirty drops. Within half an hour he was seized with a feeling of faintness and giddiness; then an attack of palpitation of the heart came on, and he complained of tingling and numbness, dryness at the back of the throat, and a sensation of heat and flushings moving over the body, but especially over the spine; suddenly a rash like scarlatina made its appearance over the body, but was more marked on the neck; the pupils were natural, and responded to light, but vision was somewhat dimmed. I immediately gave him a strong dose of mustard and warm water, which did not cause emesis. I then administered twenty grains of sulphate of zinc, but without effect; it was only by frequently repeating the dose that vomiting took place. The patient was relieved for a few minutes, and seemed brighter; but the symptoms soon returned, and he felt so weak that he thought he was dying. I held some strong ammonia to his nostrils, but he said he could not smell it. I kept him walking about, but his legs tottered so much that I had to support him. He constantly felt a desire to have the use of his bowels and bladder. The mind remained clear, and the pulse became fast, weak, and intermittent.

From the above case it would appear that the symptoms of cocaine poisoning are a feeling of faintness and giddiness, palpitation of the heart, dimness of vision, diminution of the sense of smell, difficulty in producing vomiting, relaxation of the sphincters, scarlet rash, numbness and tingling, dryness of the throat, with sensations of heat up the back.—I am, Sir, yours faithfully, JAS. LESLIE CALLAGHAN, L.R.C.S.I., &c.

Cocaine.

A CASE has been recorded by Dr. Schilling in the *Pharmaceutical Journal* in which the injection of six drops of a 20 per cent. solution of cocaine into the gums of a woman aged twenty-eight, to prevent the pain of extraction of a molar tooth, was followed after the extraction by symptoms of which unconsciousness and

rigid aspect of the face were the chief. There was contraction of the retinal arteries, as witnessed by the ophthalmoscope. The inhalation of three drops of amyl nitrite restored the patient to consciousness, and it was considered probable that the brain was in the same anæmic state as the retina. Dr. Bignon says that cocaine, if it be pure, should be white, almost inodorous, entirely soluble in three parts of alcohol, two parts of sulphuric ether, in chloroform, in sulphide of carbon, and in twenty parts of tarzine, prepared either from tar or petroleum. According to him, also, the benzoate of cocaine is more stable than the hydrochlorate, and is preferable in other ways. Grunhagen and Berthold have ascertained that injections of cocaine in moderate doses increase the blood-pressure, and they believe that this result is to be attributed to an excitation of the vaso-motor centre, since it does not occur after section of the cervical swelling of the spinal cord. In larger doses a fall in blood-pressure takes place, due to paralysis of the vaso-motor centre; in a curarised rabbit whose vagi were cut in the neck after having received a large dose of cocaine, with consequent lowering of the blood-pressure, stimulation of the vaso-motor nerve caused no augmentation of blood-pressure until the effect of the cocaine had passed off.

Sucking Breath.

A SINGULAR tradition bearing on infant mortality was brought out at a recent inquest. A child aged five weeks, was found in bed suffocated beside her mother. She had been alive and awake an hour before. Death was ascribed to the presence of a cat which had got on to the bed. In support of this contention it was alleged that the animal must have lain on the infant and sucked her breath. All have noticed the tendency of cats to nestle about those to whom they are attached, as also their preference for warm corners; and these facts would appear to give colour to the idea that the cat may have lain upon the child's mouth and so smothered her. When, however, we consider that the death occurred in the early morning while the infant was with her mother in bed, that the latter was asleep, that there was a mark possibly due to pressure on the child's right cheek, and no sign that the cat had lain on the bed, it seems at least as probable that she was overlain by her own parent. "Breath-sucking" is probably a

myth, or it would ere now have been proved by observation. The jury gave the only verdict possible in the circumstances—that of “Accidental death.”—*Lancet*.

Cambridge Medical Graduates' Club.

THE annual meeting and dinner of the Cambridge Medical Graduates' Club was held at Caius College, Cambridge, on Saturday last, July 17th. Sir George Paget, K.C.B., a vice-president of the club, occupied the chair. Among the guests present at the dinner were the several professors of those collateral branches of science most closely connected with the study of medicine, namely Professor Newton, of comparative anatomy; Professor MacAlister, of human anatomy; Professor Dewar, of natural experimental philosophy; and Professor Roy, of pathology. The Fellows of Caius College then in residence were also present as guests of the club, together with Mr. T. Pridgin Teale, of Leeds. The principal speakers were the Chairman, Professor Humphry, Mr. Timothy Holmes, and Mr. Teale. It was announced during the evening that the club was in a most prosperous condition, having now close upon 200 members.—*British Medical Journal*.

A Chemical Analysis Desirable.

A LITTLE more than a week since, an inquest was held at Sutherland respecting the death of a boy aged six years, who retired to rest one evening complaining of toothache. In the night he vomited, and the next morning he died apparently exhausted. The post-mortem examination revealed some red patches in the stomach, but no other diseased condition that would point to the primary cause of death. We regret that an analysis was not ordered by the coroner; but the jury expressed themselves satisfied “that deceased had died from the effects of excessive vomiting, but what caused this there was not sufficient evidence to show.” Exactly; that is just why we contend a further examination should have been made by a skilled analyst.—*Lancet*.

Suicides among Children.

THERE can be no question that there has of late years been an increasing proportion of suicides among children, or very young

persons. No psychical reason exists why this should not be so if the brain is very early put to hard labour, but it is unfortunate when an organ incompletely developed is thus severely strained. The practical question is whether there may not be something in our mode of training the young which "forces" the brain unduly. Moreover, is there not a tendency to place children too soon in the career of life in a position calculated to strain and worry them?—*Lancet*.

Old Age in St. Petersburg Poorhouse.

ACCORDING to the *Novosti* a man has just died in the St. Petersburg poorhouse at the age of 122; he had been an inmate since 1818. He retained his senses to the last. Indeed, it was only about four years ago that he seemed to fail at all, having till then enjoyed excellent health. There is still living in the poorhouse a soldier's wife, who is shown by documentary evidence to be fully 110 years of age.—*Lancet*.

The Mode of Voting for the General Medical Council.

A CORRESPONDENT raises the question whether the election of the direct representatives of the profession on the General Medical Council will be by secret ballot or by open voting paper. We understand that there is very little doubt but that the election will be by open voting, that is to say, by voting papers signed and verified, as in parliamentary elections in universities.—*British Medical Journal*.

NEW INVENTIONS.

WE have lately examined some apparently highly successful results of a method of coating vulcanite with metal, invented by Mr. M. G. Cunningham, of 23, Larcom Street, Walworth, S.E.

It is generally considered that the oral tissues are better in contact with a metallic surface than with rubber, however pure and smooth the latter may be; and this quality of gold or platinum plate, if imparted with care to vulcanite, must be a distinct advance in artificial work. The inventor claims great simplicity for his

method, which, according to samples submitted to us, produces, by a slight modification of the usual manipulation of rubber, a firmly adherent surface of any desired metal, of any thickness. Mr. Cunningham is desirous of showing his specimens to those interested in the subject, and will fully describe the process in our columns as soon as the interest he wishes to retain in the invention is assured to him.

OBITUARY NOTICES.

Dr. James G. Wakley.

WE regret to announce the death of Dr. JAMES G. WAKLEY, editor of the *Lancet*, at his residence, Heathland's Park, Longcross, near Chertsey, on August 30th. He was the youngest son of the late Thomas Wakley, founder of the *Lancet*, member of Parliament for Finsbury, and coroner for Middlesex. At his father's death in 1862 he became editor of the *Lancet*, the duties of which position he discharged for nearly twenty-five years, continuing, in spite of much recent suffering, active in his work up to last Easter. In his editorial capacity Dr. Wakley played an important part in all matters affecting medicine, both in its relation to the public and to the profession. He was one of the founders of Hospital Sunday in London, and remained throughout one of its warmest and most generous supporters. Dr. Wakley had suffered for nearly three years from the malady of which he died, viz., cancer of the tongue. His illness was long and trying, and the end came somewhat suddenly. But very recently the present and past members of his editorial staff presented him with an illuminated address expressive of sympathy and esteem. Dr. Wakley will be missed in many ways, and his loss will be felt not least by the poor of his neighbourhood, whose wants and hardships were the subject of his constant care and consideration.

Mr. John Bernard Magor.

WE deeply regret to announce the death, at an early age, of Mr. John Bernard Magor, L.D.S.Eng., of Penzance. Mr. Magor entered as a student of the Dental Hospital of London in 1877, and he here won for himself the highest honours, being Saunders'

scholar in 1879, and house surgeon in 1880. He was equally successful at the Middlesex Hospital, and carried off the prizes in physiology, chemistry, materia medica, and surgery. He was kind-hearted and gentle in disposition, and his greatest rivals at the hospital examinations were his best friends. After his exceptionally brilliant career in London he joined his father, who has been in practice for many years at Penzance. Mr. Magor underwent an operation, by Sir Henry Thompson, some few months ago, but, unfortunately, he succumbed to the disease from which he suffered on the 31st of August.

ANNOTATIONS.

WE have reported at considerable length the business of the Annual Meeting, but our account would certainly be very incomplete if we were to bring it to a close without saying a few words about the festivities that enlivened the gathering, and formed a pleasing contrast to the graver business of debate. We confess we feel somewhat hardly treated in this matter. We have, or rather we *had*, a "special correspondent" whose annual letter describing the Association at play was always looked for with eagerness. He knew so well how to deal with matters in a "lighter vein," that our readers will, we are sure, be greatly disappointed when we inform them that this trusted individual has coolly departed for his holiday, after informing us that "Othello's occupation is gone," and that we do not need a special correspondent in London for a London journal. Moreover, the tempting weather has had such an effect in alluring our staff away from their duties, that we hardly feel justified in employing the editorial "we" at all.

THERE is nothing for it, however, but to throw ourselves upon the indulgence of our readers, and do our best to fill the gap caused by the *escamotage en personne vivante* of our "Special." On Wednesday, August the 18th, Sir John Tomes entertained the Representative Board and a few special guests, at a very handsome dinner at the Criterion. More than forty gentlemen sat down to dinner, but as the meeting was of a private character there were no speeches, and the evening was entirely devoted to social enjoyment. On the same evening, from 9.30 to 11.30, Sir Edwin and Lady Saunders held a reception at George

Street, Hanover Square. All the world and his wife were there (dentally speaking), and notwithstanding this, the rooms were neither hot nor over-crowded, and the excellent vocal music was listened to with great pleasure. Perhaps Sir Edwin and Lady Saunders are not aware that they received considerable assistance during the evening from an unlooked-for volunteer, in the shape of a small boy, who directly he observed a cab or carriage (containing people in evening dress) to enter George Street, promptly called out, "here you are, sir," and directed the vehicle to No. 13A.

ON Thursday and Friday a capital luncheon was provided at the Criterion by the London members. It was held in the same room as the dinner and was very well attended. A special entrance was provided for the members, so that they might go straight in from Jermyn Street, but we came to the conclusion that it was dangerous to attempt to traverse it without the assistance of a guide. Feeling that in the interests of the Journal it was important to investigate everything, some of our staff braved this long and arduous journey, and, after emerging from the lift, found themselves in a labyrinth of passages; however there were waiters posted every quarter of a mile or so along the passage to cheer on and encourage the travellers, who reached their destination eventually. We may add that no one (not even our "special correspondent") proved venturesome enough to avail themselves of this elaborate short cut on returning from luncheon.

ON Thursday evening the Odontological Society gave a conversatione in the rooms of the Medical Society of London in Chandos Street, Cavendish Square. The rooms were elegantly decorated under the superintendence of Mr. David Hepburn, who also was responsible for the musical programme. For instrumental music the Society was fortunate enough to obtain, by permission of the commanding officer, the services of the string band of the Royal Artillery, while Mr. Turle Lee conducted the vocal department, and therefore it is needless to say that both were admirable. Mr. George Belford kindly assisted with some clever recitations. The heat in the music room was very great, owing to the fact that the people were so closely packed that at times it was difficult to move at all, but the evening passed off very pleasantly and successfully.

THE Association Dinner on Friday has already been reported

in full; we may, however, add that the dinner was good, and the attendance was much the best on record. Just as the papers read before the meeting possessed a special character, so did the speeches delivered at the dinner. One statement that fell from the lips of our Hon. Secretary was specially gratifying; we refer to his allusion to the possibility, or rather the probability, in the immediate future of the formation of an Irish Branch of the Association. To judge from the rounds of applause that greeted the announcement, the formation of this Branch would be very welcome to the Association, and we have since learnt that the scheme is really afoot, and will ere long be carried into effect.

ANOTHER observation that we think deserves all the attention that is possible, fell from Mr. Turner. We allude to his suggestion that it is a matter much to be regretted that any of those who study in our London schools should think it advisable to seek their diploma elsewhere than in Lincoln's Inn Fields. We cannot but think that anyone who possesses the diploma of L.D.S., holds as good a dental diploma as can be obtained, and it is an indifferent compliment to the College of Surgeons to fancy that the possession of an American diploma can improve his position. England, Scotland and Ireland educate, examine and qualify their alumni in a manner which leaves little to be desired, and we do not think those who learn the science and art of their profession in these countries, need travel further afield for their diplomas. One more word about the dinner. We are sure that all our members without exception, will have felt that the presence of such distinguished guests as Mr. Sibley, Professor Marshall, Mr. Brudenell Carter and Mr. Trimmer, was a grateful sign of the times, and shows, perhaps more than anything else, the fact that dental surgery is now recognized as an important branch of the great parent profession of medicine.

ON Saturday, about three hundred members and friends of the Association assembled at the garden party given by Sir Edwin and Lady Saunders, at Fairlawn, Wimbledon. Luckily the weather was propitious and the gathering brilliant and successful in the extreme. We need say nothing of the hospitality of Fairlawn, as most of our readers have vivid recollections of it. Sir Edwin Saunders never does anything otherwise than well, and his beautiful grounds afforded every advantage for a garden party.

During the greater part of the afternoon a capital band (Shrimpton's) discoursed pleasant music, while later on the visitors were regaled with very excellent vocal music in the drawing room by Miss Tonson (daughter of Dr. George Tonson, Chairman of the Council of the Medical Benevolent College), and Ernest Augustus Tielkens, Esq. During the afternoon, George Holland, Esq., gave an amusing monologue from the terrace. Sir Edwin had in addition provided a means of enabling the guests to obtain permanent souvenirs of the pleasant afternoon, in the shape of photographs of the meeting. The services of Mr. Charles Latham, of 5, Bedford Hill Terrace, Balham, S.W., were retained to photograph the company. Three photographs were taken and all were eminently successful, but we think number three by far the best for many reasons: Sir Edwin himself figures in it; Sir John Tomes comes out very clearly, and all the company have their hats off, which is an advantage. The beautiful grounds are rendered with a distinctness which reminds us of Vernon Heath's foliage. Altogether the photograph cannot fail to be of interest to all who were present as containing a collection of distinguished and familiar faces. Copies can be obtained on application to Mr. Latham at the above address; they are 5s. each, or 12s. 6d. the set of three, and we can honestly advise all our readers to purchase.

It will, we are sure, interest all who were present at the Garden Party, to know that they narrowly missed being honoured by the presence of Royalty. It was hoped that Her Royal Highness the Princess Mary Adelaide, Duchess of Teck; His Serene Highness the Duke of Teck; the Princess Victoria, and the Princes Adolphus Francis, and Alexander, would have honoured Sir Edwin and Lady Saunders and the Association with their presence on this occasion; but their Royal Highnesses were unable to be present, being previously engaged to Lord and Lady Alfred Paget on that day. On Thursday, 26th, however, the President of the Association received these distinguished visitors at Fairlawn, and we may be justified in considering that the honour conferred upon Sir Edwin and Lady Saunders, is shared by the profession at large.

On Friday, 20th, the Dental Hospital, Leicester Square was the scene of some interesting demonstrations in various forms of filling. Mr. Robert Woodhouse illustrated his method of com-

bining gold and tin ; Messrs. Storer Bennett and Tothill demonstrated the Herbst method, the former with gold, the latter with tin ; and Dr. St. George Elliott, Mr. Latchmore, and Mr. Ackery, gave illustrations of gold-filling. It was very difficult to follow the manipulations of the various operators, owing to the throng of would-be spectators. Moreover, these demonstrations are eminently things to be seen, and not things to be described, and we do not think that even had we been able to avail ourselves of the services of our special correspondent, his facile pen would have succeeded in conveying a very clear idea of the various performances.

DENTAL apparatus, in all its shapes and forms, was exhibited by the various leading firms of manufacturers, Messrs. Ash & Sons, the Dental Manufacturing Company, Messrs. Jamieson, and Mr. Daniel Collins being among the exhibitors. Here, again, it is a hopeless task to attempt to describe the exhibition. Suffice it to say, that it was very complete, and thoroughly up to date, and formed not the least interesting item in the Annual Meeting.

THE INTERNATIONAL CONGRESS OF 1887.—We are indebted to the courtesy of one of the acting secretaries, Dr. E. A. Bogue, for the following information respecting the coming Congress, and we understand that the executive will be very pleased to receive any offers of help. The most convenient form such help could take would be, that those of us who wish to read papers should forward rough sketches of them for the approval of the executive. The plan of work in the dental and oral section of the Congress is designed to embrace both operative and prosthetic dentistry. Under the head of operative dentistry will be presented the different methods of treating natural teeth, with all practicable filling materials. So far as possible the different systems in use in the various countries represented, will be produced and illustrated by different operators.

IN the department of prosthetic dentistry, the different styles of crown and bridge work will be demonstrated by skilled operators from the several countries represented ; also, all the forms of artificial teeth and plates in use, including continuous-gum work, the various styles of gold and other metal work (including cast plates) ; and any new or valuable improvement in the different plastic materials, such as celluloid and rubber, or their various

combinations. It is expected that the actual construction of all prosthetic work will be carried on by the various operators present. The conduct of these clinics in both departments will be specially arranged, so that every facility for minute examination of the mode of procedure adopted by some of the most skilful and accurate manipulators, may be afforded to all present. It is desired that the distinctive instruments and appliances for every department of work may be brought by the respective operators, or furnished by the committee in charge. The work will be distributed through a series of apartments, so arranged as to give ample opportunity for observation. The time devoted to this work will not interfere with other work of the section. Rooms will be provided, with a number of instruments, for microscopic examinations of specimens, and the details of such work will be shewn. Other departments will be provided for shewing the results of original investigations upon scientific or practical subjects bearing upon dental art. Papers to be read at the Congress, or abstracts of them, must be in the hands of the Secretaries, by April 30th, 1887. One of the Secretaries of the Dental and Oral Section, Dr. E. A. Bogue, will be at 39, Boulevard Haussmann, Paris, until January 1st, after which he may be addressed at his own home, 29, East Twentieth Street, New York City. He will be pleased to receive communications for the Congress at as early a date as practicable, and in order to facilitate the speedy formation of a definite programme, it is desirable that those who intend to contribute should send abstracts of their contributions with as little delay as possible.

It is with genuine pleasure that we learn from our friend, Dr. Bogue, that the prospects of the approaching International meeting have steadily improved since we last expressed an opinion on the subject. The differences of opinion that then threatened to paralyse the efforts of those who were organising the meeting, have been almost, if not entirely, smoothed away. Difficulties that appeared insurmountable have been overcome, and the harmony, the absence of which alone could imperil the undertaking, has been in a great measure restored. We cannot too strongly express our admiration for the tact and forbearance that must have been displayed to have brought about this state of affairs. We confess that we, together with most representatives of English feeling, did not at one time regard a happy consummation as at

all likely. We knew very well that if our American cousins agreed to join hands over the matter they would do the thing splendidly, but this was just what we were afraid they would not agree to do. As matters stand, we trust that even the few distinguished men who still stand aloof will see their way to completing the restoration of harmony. We have been allowed the privilege of examining a rough draft of the scheme of the meeting, or rather a suggestive sketch of the disposition of the time and materials at the disposal of the Executive, and as we have reason to believe that this scheme will be greatly modified, we shall make bold to offer a few suggestions. We hope the subject of Dental Materia Medica will not be passed over without notice and that room will be found for the discussion of anæsthesia, general and local; moreover, we should be sorry not to hear something more of comparative odontology from the countrymen of Leidy, Marsh and Cope. Another tempting subject is micro-photography, and there are many more that do not figure in the rough list, while Education, Legislation and Prosthetic Dentistry occupy a very large slice of the time at disposal. Lastly, it is no good to try to get through papers and discussions at the rate of one per hour.

We have received from the Royal College of Surgeons of Edinburgh, notice that the first professional examinations for the license in Dental Surgery of the Royal College of Surgeons of Edinburgh, will take place on the following dates:—1886, Tuesday, October 5th; 1887, Tuesday, January 4th; 1887, Tuesday, April 19th; 1887, Tuesday, July 19th; and the second professional examinations will follow on the Thursdays succeeding these dates.

POST-GRADUATE COURSE IN EDINBURGH.—It has now been definitely arranged that this Course shall be held during the last week of September (commencing on Monday, the 27th), and during the two first weeks of October. All the members of the medical and surgical staff of the following institutions have agreed to take part in it, viz. :—The Royal Infirmary, The Royal Hospital for Sick Children, The Royal Asylum, Morningside; The Dental Hospital, and The Throat and Ear Hospital. Gentlemen who desire to attend the Course, but who have not yet intimated their wish to do so, are earnestly requested to communicate their intention, *at once*, to either of the Secretaries, Dr. Muirhead or

Professor Chiene, (Charlotte Square), in order that the final arrangements may be completed. This Course is open to all practitioners of medicine.

WE noticed with pleasure in a recent copy of the *Times*, the following scrap of news:—"Aug. 10th, at St. Leonard's, Streatham, Harry L. Pillin, L.D.S.Eng., of 33, George Street, Hanover Square, to Sallie, only daughter of H. J. Brown, Esq., of 'The Lindens,' Manor Park, Streatham." Mr. H. L. Pillin was formerly House Surgeon of the London Dental Hospital.

AT the recent meeting of the British Association at Birmingham in the Physiology sub-section, Professor Windle contributed a paper on the lost incisors in man. The writer drew five principal deductions from the facts at his disposal: (1) That man's original dentition was 8 incisors. It has long been an accepted fact that some ancestral relative of mankind possessed this formula, but it is a bold statement to assume that it was ever possessed by any creature that could be designated "man," and if this is the Professor's contention, we do not think he will find it easy to substantiate. (2) That two incisors from each jaw have disappeared; this is of course obvious if man ever possessed six. (3) That this loss is due to a contraction of the palate. (4) That the process of contraction is still in progress, and will probably proceed until two more incisors are lost, both of which statements, although by no means novel, are still altogether hypothetical. And (5) that the conical shape of many supernumerary teeth indicate a reversion to a primitive type. This last statement is deserving of careful consideration, for although much may be said in favour of the reversion theory, there is a very useful armoury of arguments against it. The question of reversion is one of absorbing interest, and, if accepted, the theory that abnormalities indicate a revival of some long-forgotten habit on the part of nature, would lead us into many a labyrinth of knotty problems. The smallest acquaintance with comparative anatomy would lead anyone to suppose that man was descended from a creature armed with six incisors, but we cannot agree that this armature was ever possessed by man, or even by any of the higher order of ape.

The *Times* of Tuesday, the 7th of September, contains a very curious letter, signed "Physiologist, F.R.S.," commenting on an

address by Sir John Lubbock, on technical education. The statement made by Sir John Lubbock, which calls forth Physiologist's reply, is, that Mr. Gladstone refers his excellent health to a simple rule of making "twenty-five bites at every bit of meat." After these words in the letter, Physiologist inserts in a parenthesis ("laughter and cheers"), which appears to be intended as a stage direction to the reader, and one which is distinctly needed, for no one would have guessed that they ought to laugh at the passage, though a great enthusiast might be tempted to cheer it. Physiologist goes on to say that the statement is "another" (!) "illustration of great ignorance of natural things in the presence of high and even wonderful conceptive faculties." And why? Listen! "Meat is digested by the stomach juices, not by the mouth juices as vegetables are. Meat does not need for digestion, twenty-five bites for each piece, and even no bites at all if it be finely divided with the sharp blade of a knife, &c." We feel inclined to ask, "what sort of piece?" whether by "finely divided" he means minced up, and whether meat finely divided with the blunt blade of a knife would require the twenty-five bites. Space forbids us to quote more of Physiologist's funny physiology, but, to pervert his original statement, his letter is another illustration of great ignorance of physiology in the presence of sufficient faculties to obtain the degree of F.R.S. We do not doubt that Physiologist is a man of science, but we suspect that he has long ago grown rusty in physiology, and that his theories of "deglutition," by which he apparently wishes us to understand "digestion," need considerable revising. We hope he has some other claim to scientific eminence outside the domain of physiology.

CORRESPONDENCE.

We do not hold ourselves responsible for the views expressed by our Correspondents.

The Use of the Elevator.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—In the letter from Mr. E. Cox, appearing in the Journal of June 15th, he states that he must dissent from my conclusion that the Elevator should never be used for the extraction of any tooth in the upper jaw, as so many accidents are liable to occur. I think, however, that every impartial reader of his letter will agree with me, that the cases he has brought forward, all of which are casualties which occurred during the removal of *upper* teeth with the Elevator, cer-

tainly tend to strengthen rather than to weaken the argument I used, that the use of the Elevator should be confined to the lower jaw.

Yours &c.,

AN L.D.S. WHO HAS HELD A HOSPITAL
APPOINTMENT FOR MANY YEARS.

Tooth Powder.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I somewhat agree with the competent authority who tested the tooth powder submitted for examination, but in my opinion his test is not conclusive enough, as he states that the roughness seems due not to pumice, but a fine form of silica. Pumice, according to Klaproth, is composed of silica, 77.5, alumina 17.5, oxide of iron 2, potassa and soda 3, in 100 parts. This analysis shows that the basis or major portion of pumice is silica.

As he acknowledges the sample contained silica, carbonate of lime, chlorate of potassium, organic matter, and colouring matter, the ingredients enumerated, including the chalk or carbonate of lime, do not differ much from the combination of pumice with chalk.

Silica derived from a vegetable origin, when extracted is restored to its insoluble condition. I do not think it would recompense the maker of a tooth powder to adopt this method to procure silica, when nothing is to be gained by this process, and the outlay would be enormous.

I remain, yours respectfully,

ALEXANDER JAMIESON, F.C.S.

APPOINTMENTS.

Mr. ALFRED PRAGER, L.D.S.I., has been appointed Honorary Consulting Dentist to the Pimlico Road Free Dispensary, *vice* W. H. Lovejoy, M.D., M.R.C.S., deceased.

LEONARD MATHESON, L.D.S.Eng., has been appointed Assistant Dental Surgeon to the Dental Hospital of London, *vice* Arthur S. Underwood, M.R.C.S., L.D.S.Eng., resigned.

Mr. REES PRICE, L.D.S.Eng., has been appointed Dental Surgeon to the Glasgow Hospital for Diseases of the Ear.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 40, Leicester Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Members are reminded that their Subscriptions for the current year are now due and should be remitted to the Treasurer, at 40, Leicester Square.

According to the Bye-laws of the Association, Members who are one year in arrears are not entitled to receive the Journal.

All Correspondence for the Editor, Books for Review, and Exchange Journals, should be addressed to 11, Bedford Square, London, W.C.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 10.

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VOL. VII.

Three Texts and a Sermon.

"THE practitioner who has been educated under the Dentists Act, owes to it a *debt of the deepest gratitude*, for its educational requirements have placed him in a position to practise with justifiable confidence, the offspring of knowledge and skill, and to surpass in usefulness those less perfectly instructed. Surely this of itself is a very ample reward for the cost and trouble of a systematic education and of *registration*."

"Persons who with knowledge infringe the provision of the Act, should undoubtedly be prosecuted, not so much for the protection of those who are protected by the Act, in the superior education it has caused them to acquire, and by *registration*, but for the protection of the public."

"In no case will its (the 'Association's') efforts be more useful than in presiding over the application of the penal

sections relating to the *unregistered*." (The italics are our own.)

Looking at the question of registration in the light of the above quotations from the address of Sir John Tomes, as published in our September number, we may see that our veteran leader considers that gratitude alone should impel a man who has become possessed of his diploma, immediately to place his name on the Register ;—gratitude for the enforced education which he has undergone and which will presently redound so much to his comfort and to his pecuniary advantage. Further on, the terms education and registration are used together, plainly showing that to the mind of the author the one could not be complete without the other, and that he considers that the possession of a diploma brings with it the responsible duty of registration, and that no dentist should consider his curriculum complete until his name is placed on the Dentists' Register.

In the second paragraph which we have quoted, the prosecution of those who knowingly infringe the Act is insisted on for the protection of the public. Doubtless, the position of the legal practitioner is defined by registration and thereby in a measure protected, and this protection also extends to the public by the help it affords them in distinguishing between the legitimate practitioner and the charlatan. Clearly, then, if gentlemen who have secured their diplomas neglect to register, they not only forfeit the advantages conferred upon them by the Dentists Act, but they also deprive the public of the right of being able to know to whom they should apply in time of need—a right which they (the public) have acquired by conceding to us through their representatives in Parliament, the status and privileges of professional men.

The third quotation we have made, mentions the application of the penal sections of the Act to the unregistered.

Now, if those who neglect the precaution of registration, whether from carelessness or from some incomprehensible sense of superiority, would but reflect that by so doing they throw difficulties in the way of the executive, who are endeavouring to prevent any infringement of the Act, they would at once see that their conduct is a source of trouble and inconvenience to those who are devoting their time and energies to the elevation of our profession. We are assured that our hon. secretary is continually receiving the names of unregistered practitioners who are so by their own default alone, but who nevertheless create a feeling of dissatisfaction among those who have acknowledged and fulfilled their obligations.

We think it well to point out to these gentlemen that the possession of their diplomas does not in any way legalize their position. That being unregistered they are liable to be called upon to serve in any capacity just as if they had no diploma, the Register being the sole evidence acceptable to a court of justice. Neither are they competent to prosecute claims as dentists, while their names are not on the Register, and it is within our knowledge that the evidence on a question relating to the practice of our profession of a gentleman, holding both a surgical and dental qualification, was considered valueless because his name did not appear on the Dentists' Register.

The moral of our sermon is, therefore, that it is a duty to register, and further, that both on public grounds and private considerations it is politic and wise to register.

A Swiss Dental Association, the Verein Schweizerischen Zahn-
aerzte has recently been instituted at Zurich. The principal pro-
moter has been a M. Wellanen, of Trauenfeld, and sixty dentists
have already responded to his appeal.

Quackery nearer Home.

IN our issue of last July we felt called upon to denounce certain flagrant abuses by which dental charlatans were in the habit of practising upon the gullibility of the British public. It was not a pleasant task, but we felt that while this Association represents legitimate dentistry in Great Britain its journalistic organ must not hesitate to speak plainly in defence of the interests of legitimate practitioners. We will not recoil from dealing with these disagreeable topics so long as the evils we complain of continue to interfere with the happiness and prosperity of those among us who desire to earn their livelihood uprightly and with the approval of their consciences. It is, therefore, in pursuance of a plain duty from which we refuse to shrink, that we propose to discuss a more insidious and more disgraceful form of unprofessional conduct than open unblushing advertisement.

Our previous article bore fruit in the form of a number of letters from various parts of the country, which while cordially applauding our expression of opinion, drew our attention to other forms of attracting practice largely in vogue in certain towns, which we do not hesitate to say are more discreditable to those who stoop to employ them than the blazing effrontery of placards, circulars, pamphlets, *et hoc genus omne*.

This surreptitious variety of unfair practice has many forms and fashions, but in all is to be found one common feature, namely, a mutual understanding between a dentist and someone else, by means of which the unsuspecting public is mulcted and practice diverted from those practitioners whose sense of right and wrong is too strong to permit them to be partners in the conspiracy. Whether it be the doctor who recommends, or the schoolmistress who "takes the children," or the clothier who directs his

clientéle ; whether the *quid pro quo* be a direct commission, or periodical "presents" sufficiently handsome to represent a commission, there is always the same salient element that the patient pays fees sufficiently exorbitant to reward the dentist, and, in addition, provide a royalty to a third person whose influence has been necessary to procure the introduction. One correspondent narrates the particulars of certain very flagrant cases, but without mentioning the names of the persons concerned, cases in which Turkey carpets and gold bracelets formed the "recognition" of such services on the part of a schoolmistress towards a practitioner ! We wonder in what light these costly gifts would appear to the unconscious parents and guardians could they be made aware of the matter ? It is this helplessness on the part of those who eventually pay the piper that seems to us so aggravating a circumstance in the whole business. After all we have but little pity for the folly and ignorance that is taken in by blazing advertisements ; such foolish folk will always be the victims of the unprincipled, just as people will always exist who try their luck at the three-card trick. Moreover the last rag of pity disappears when we consider that the principal bait in such cases is an appeal to the meanest possible economy, and we doubt whether such a class of patients are a great loss to the respectable practitioner. But the victims of the underhand treaty above alluded to are neither foolish nor mean, they simply trust and their trust is abused. They pay their bills for the most part without question or doubt ; it has never occurred to them that a large proportion of what they pay is never destined to reach its nominal recipient but is simply palm oil to grease the rusty wheels of recommendation.

Now if, as our correspondents assure us, this is really a common evil, it is one for which all honest men will blush, and which public opinion will condemn as a grievous dis-

grace to professional morals. And now with regard to those who *assist* the dentist "for a consideration." We can see possible excuses for the tailor or the schoolmistress, but what is to be said for the medical practitioner who accepts commissions? The pillory has been done away with in its primeval form, but there yet exists a still more terrible pillory—that of public opinion—and such medical men should be subjected to its severest penalties.

Our correspondent, who signs himself "Fiat Lux," is one of the many who have directed our attention to this matter. We trust that the evil is less widespread than he and others would lead us to believe, but in the face of the evidence they adduce it is difficult to doubt that something of the sort exists, and if so the sooner the delinquents feel the sting of public opprobrium the better.

ASSOCIATION INTELLIGENCE.

The Annual General Meeting (*continued*).

Thursday, August 19th.

AFTER the adjournment for luncheon Mr. J. S. TURNER took the chair, and called upon Mr. CHARTERS WHITE to read his paper on "A Simple Method of Photographing Biological Subjects," which was followed by an interesting discussion, in the course of which in reply to Mr. Blandy, Mr. White explained that the plates he had found most useful were the Ilford plates. They used to be called Britannia. A man might be very apt to draw what he wants to see, not with any intent to do so, but there is a sort of bias in his pencil.

Mr. BLANDY : A photograph often gives us a false image. For instance, if a young lady has many freckles, they all come out as dark spots on the face. I do not know whether these photographic slides that are more or less non-actinic, would give out a white spot on the negative and result in a dark spot on the print, and then give you a false image representing a stain, which the artist, when drawing would not see.

Mr. WHITE : I do not think there is much fear of that, because some of the best photographs are as brown as possible. There is

one of a red earth mite. We all know that red is a very non-actinic colour, yet the red mite comes out with all its details as sharp as possible; in fact, I have got better results from using Bismarck brown for staining my objects than from any other, but it makes little difference unless you use a blue. A pale blue stain is more difficult than a brown or a red.

Mr. MORTON SMALE then read his paper "On Dental Education," which appeared in our last issue, p. 586.

The CHAIRMAN having invited discussion, Dr. Smith said, as a practitioner of nearly half a century's experience, I am very glad to say that I entirely approve of every word which has been so ably said by Mr. Smale. What he has stated with regard to the curriculum of the London colleges and the examinations in dental surgery, is almost identical, in fact, I think it is quite identical, with the curriculum and examinations in the colleges of Edinburgh. I also entirely approve of dental practitioners taking the full qualifications of the colleges. I met with a good deal of opposition at one time, in attempting to suggest that such a thing was proper, but I am convinced that in the long run that will be the general rule, because the expense, the labour, and the time, are so very little more than are required from the student to obtain the dental licence; and if a man afterwards wishes to obtain the fellowship of any of the colleges, or other similar privileges which are limited to men obtaining the full licences of the colleges, he has it in his power to do so. Besides, there is no doubt whatever, that the advantage of an acquaintance with medicine and surgery is of very great consequence in many cases. If the requirements of a dental student were limited entirely to dental anatomy, dental physiology, and dental chemistry, there would be a very considerable loss to him, because the anatomy of the face and of the jaws does not constitute the science of anatomy; the physiology of the fifth pair of nerves does not constitute the science of physiology; nor does the chemistry of gold and the mineral substances, which come under the cognisance of the dentist, constitute the science of chemistry. It is much better for a man to acquire a full acquaintance with anatomy, physiology, and chemistry generally.

Mr. WATTS: I should have liked Mr. Smale to have also sketched the curriculum, as applied to the Edinburgh College, and if Mr. Macleod or Dr. Smith, or any other Scotch dentist, could draw out such a curriculum as Mr. Smale has, and apply it to the Edinburgh College and publish it in the Journal, I should

be very grateful. One point in his paper I took particular notice of. He said that the first three years ought to be spent entirely in the workroom. I have always understood that it is the practice of some to take their three years in London or Edinburgh, and during that time to take their classes also. It appears to me that three years devoted entirely to the workroom is the very least time in which mechanical dentistry can be acquired; but to take three years and out of that time to devote each day four hours to classes, and so pretend that they are devoting three years to mechanical dentistry, is to me a perfect farce.

Dr. SMITH: I may mention for the benefit of the last speaker, that the curriculum is to be found in the Regulations for Dental Students, published by the Royal College of Surgeons of Edinburgh, and it can be had on application to the secretary, who will send it by post. In it all the particulars are given.

Dr. WILLIAMS: The greater part of the paper I agree with, but there is one point to which I wish to draw attention, and to which the last speaker has referred. Mr. Smale said that the union of operative and mechanical dentistry would favour the best interests of the profession. I think that the regulations in regard to mechanical dentistry are not sufficiently stringent at present. As the last speaker implied the "three years," required by the Regulations for Mechanical Dentistry is very often a mere farce, and the certificate of attendance is given with great laxity. If the mechanical part is so important and the two can be conjoined, there can be no objection to a practical course being given, as is given in the American colleges. There are difficult cases that can, as a rule, only be seen in anything like particularity in connection with a large hospital or school, and these particulars are, as matters at present stand, to a great extent lost to the students. I certainly think that there should be some sort of practical examination in connection with mechanical dentistry, and an additional laboratory in the Edinburgh School for the practical mechanical work. No doubt there are many difficulties in connection with the establishment of such a thing, but as our profession is constituted, the two being joined together inseparably, there should be something more done in that direction.

Mr. HUTCHINSON: It would be a pity that any gentleman should get an impression from the paper, read by Mr. Smale, that he does not consider the L.D.S. a sufficient qualification for a dental surgeon, both he and I do most emphatically believe that

the L.D.S. of the College of Surgeons is a sufficient qualification. What he and I are anxious to do is to induce all students through their hospital career to endeavour to avail themselves of the higher education which is possessed by those who get the conjoint diploma. Mr. Smale has shown how easy it is for a man of ordinary ability and average diligence to make sufficient attendances on lectures and to have sufficient hospital practice, to obtain the conjoint diploma ; but I would urge the great necessity of students giving up the morning part of their time to dental manipulation, and never to let the conjoint diploma interfere with their dental work. With regard to mechanical dentistry, I hope the day is not far distant when a portion of mechanical dentistry will be allowed by the College of Surgeons to be taken before the student passes his preliminary examination in arts. That is a very delicate question, and wants a great deal of thinking over. We are all emphatically of one opinion with regard to the education, which it is necessary for a man to possess before he can enter upon his medical or dental course, but I throw out the hint now, without attempting to urge the adoption of it, whether it may not be possible for the time spent in the workroom before the preliminary examination, to come in as part of the curriculum of the College of Surgeons. I believe Mr. Turner on the Medical Council was the first to mention this subject, and I wish to take this opportunity of placing on record this suggestion, that a portion of mechanical dentistry should be passed before the student passes the preliminary examination in arts.

Mr. CHAS. CUNNINGHAM : There is an important point that I think ought to be mentioned in this connection, and that is that the country is hardly up to Mr. Smale's paper. I think most of the gentlemen practising in the town of Cambridge, where I happen to be acting as an assistant, will bear me out when I say there is a difficulty in getting the proper class of young men to come forward as apprentices or pupils.

Mr. HUXLEY : To take the matriculation of the University of London before the age of seventeen, certainly entails a very severe strain on the average youth. There are exceptional cases, no doubt, but for our purposes I would rather advocate a sound examination in such subjects as grammar, thorough English, and a fair amount of Latin and mathematics, and then encourage him to take up one subject, such as language or science to a higher point. I have been acquainted with many who have passed the

matriculation, and they have taken up a vast number of subjects to a certain point; they are then called away to attend to a different class of work, and a great deal of what they have studied is utterly wasted. With regard to the age at which it is possible to apprentice a boy to mechanical dentistry, I believe you cannot begin too young. If you are going to teach him to sit at the bench and work with tools, the younger he is the better. I would suggest that during the three years the preliminary scientific subjects might very well be perused. An hour a day during the three years would enable him to fulfil several useful courses of lectures, and he might pursue his curriculum later on. I would suggest chemistry as suitable to that stage. The lectures on mechanical dentistry surely could be taken while he is working at that subject practically, and also metallurgy, and if time allowed an easy course of physiology lectures, to put him in a better position to go on with his studies at the college.

Mr. W. COFFIN : I should like to point out that I think it would be very advantageous if the authorities at hospitals were to give the students some opportunity, if they wished it, of having some practise in certain departments of artificial work, with which they might not come into contact during their apprenticeships. During the course of lectures they hear about certain methods and ways of work which their preceptor may not have used in his workshop, and, without making this compulsory, the means might be afforded to a student of availing himself of such. Among the hospital patients there may be cases for very nice fitting, or adjustment, or for using apparatus for correcting irregularities. I am sure it must have been the experience of many that such practical methods of scientific artificial work were not used in the laboratory in which they were apprenticed. One cannot help thinking of the old custom of apprentices leaving their apprenticeship and becoming journeymen, in order to have some experience in practice.

The CHAIRMAN : I think Dr. Walker is working in that direction in London now.

Dr. CUNNINGHAM : I wish to refer to the dreadful responsibility under which the members rest with regard to the system of pupilage. I say that with a due sense of warning to myself. Reference has been made to the decadence of mechanical dentistry, and I appeal to you whether it is not often due to failure to give that amount of care and anxious attention which we ought to give to the pupils. Too frequently we accept a premium without giving

a quid pro quo. Reference has been made to the system of teaching mechanical dentistry in America. I endorse Dr. Williams's statement, and I anticipated hearing from a gentleman who can speak authoritatively on this subject, Professor Stack, of Dublin, who has introduced the American system there. I have great confidence in the American system. There are good points in both systems, and the judicious thing would be a happy combination of the two. As long as we retain the three years pupilage, it behoves us to do our work not as practitioners but as teachers. With regard to the mechanical work in our dental hospitals, I do not hesitate to say that the mechanical department in any dental hospital on this side of the Irish Channel is, perhaps, not commensurate to the position the profession holds to-day. But practical teaching should not be confined to the mere manipulation of plates. Practical work should also include metallurgy—not too much about fine metals that we very seldom meet with in actual practice, but the student should be made to have a knowledge of gold, amalgam, and plastic cements that we do work with. If that were done we should get our students to help us to achieve those valuable results which we aim at. With regard to the class from which we draw our pupils, that is a subject which has practically come home to myself, and I have to thank my brother for preventing me from taking young men into my workroom when I could expect to do nothing more than make mechanicals of them. Our hope is to turn out men who will in time to come contribute to the scientific standard of the profession. We must bring our profession before the head-masters in schools. At the present moment in this room, I believe, there is a student of one whose name you know—Mr. Rhodes—my co-worker in Cambridge last year. He has had a pupil who while working there has taken a degree in Cambridge, and I am quite sure it is possible for a man to follow out his pupilage and at the same time take his degree at a University. Such men raise the profession in the eyes of the public.

Mr. FISHER: Before the discussion closes I should like to express my opinion of the L.D.S. Mr. Smale has advocated the full medical qualification and has given an illustration to show that men in possession of that would be better able to diagnose anything cropping up in the mouth. Mr. Smith followed and showed that dental anatomy and dental physiology and other matters—still qualifying them by the word dental—were not really

fit training for dentists. Now the training for the L.D.S. is not confined to dental anatomy or dental physiology. I do not think the L.D.S. who goes through the curriculum of England could quite pass the preliminary as it used to exist. Then there are such subjects as the treatment of fevers, which never comes in in the after-life of the dentist, and any other matter is quite as good for the argument as to say that the whole study of medicine better qualifies a man for the profession of a dentist. I do not see why we should ignore the L.D.S. that is growing up in our midst. If I had a son going in for medicine I should not put him in the L.D.S. curriculum, but for medicine pure and simple. A physician at the present day if he wants his son to take up a speciality, say lunacy, after he is qualified, he sends him off to special lectures: the same thing is done by the oculist, and I feel that in time from the way in which we are drifting the diploma must be lost and we must fall back into medicine pure and simple.

Dr. SMITH: I think there has been a little mistake; perhaps I have not rendered myself intelligible. I would by no means dispense with the L.D.S. in the case of dentists. I look upon it as the only guarantee that the man is a dentist. The argument that has been advanced would apply to other specialists. An obstetric physician is not the worse for knowing how to take out a tooth as well as to deliver a child. So far from thinking that the licence in dental surgery is not one that a dentist ought to take out, I have spoken for some time now of introducing a licence in ophthalmic surgery or obstetric surgery to be given in addition to the man's general qualifications. I think the licence in dental surgery is most decidedly necessary to every dentist.

Mr. FISHER: I certainly quite approve of the L.D.S. being a *sine qua non* of a dentist, but I believe a practitioner can practise dentistry without that diploma. There is scarcely any other profession that requires seven years. The conclusions to be gathered from the opinions of all members of the profession who have experience in practical work is, that if a man has the means of becoming a surgeon as well as a dentist he should do so, but above all things let him be a dentist first. If he has the means of becoming a cultured man, let him become as cultured as he can be, but whatever you do, let him be a dentist first.

The CHAIRMAN: I do not think that the subject is at all exhausted. I am much obliged to Mr. Fisher for the way in which he has spoken up for the L.D.S. I think there is also an econo-

mical side. I think the expense of a dental education as it is now being piled on, will become something stupendous, and I am not surprised that people of the middle class should think twice before allowing their sons to launch out into the necessary expenses, if the views of some of our members were carried out. By all means let men do it, but do not let us hear of its being a necessity, otherwise I am afraid, as Mr. Fisher has suggested, we shall lose the substance in following the shadow.

The meeting was then adjourned till the following Saturday.

Central Counties Branch.

THE annual meeting of the Central Counties Branch of the British Dental Association was held on Friday, October 8th, at the Dental Hospital, 71, Newhall Street, Birmingham. Mr. FRANK E. HUXLEY (President) occupied the chair, and amongst those present were Dr. Walker, Mr. T. Gaddes, London; Mr. Thorman, Mr. S. Birt, Leamington; Mr. Harding, Shrewsbury; Mr. R. Owen, Mr. McCulloch, Wolverhampton; Mr. Roberts, Dudley; Mr. Grant, Mr. A. Vice, Leicester; Mr. C. Sims, Mr. F. E. Huxley, Mr. H. B. Neale, Mr. J. Humphreys, Professor Windle, Mr. F. W. Richards, Mr. G. O. Richards, Mr. W. Palethorpe, Mr. F. H. Goffe, Mr. W. T. Elliott, Mr. E. J. Hordern, Mr. W. Madin, Mr. P. Madin, Mr. Egerton Sims, Mr. Cale Matthews, Mr. F. R. Howard, Mr. Orrock, Birmingham; Mr. W. H. Nicholls, Cheltenham; and Mr. Levason, Hereford. Mr. Breward Neale was elected president of the Branch for the ensuing year, Mr. Frank E. Huxley treasurer, and Mr. John Humphreys secretary.

On the motion of Mr. HUXLEY, seconded by Mr. HUMPHREYS, Mr. W. E. Harding, of Shrewsbury was appointed president-elect for 1887-8, and it was accordingly decided to hold the annual meeting of the branch next October at Shrewsbury. Mr. W. A. Vice (Leicester), and Mr. Orrock (Birmingham), were elected members of the Council.

Mr. CHARLES SIMS said some two years ago it was thought advisable that the Parent Association should be asked to hold its annual meeting in the town, but circumstances occurred which led them to think that they were then not sufficiently strong to give the Association such a welcome as could be wished. He

thought the time had now arrived when they might with safety undertake to give an invitation for 1888. Next year the Association went to Glasgow.

Mr. LEVASON seconded the motion, which was carried unanimously.

Demonstrations were then given by Mr. Stephen Birt on "Cylinder Filling," and Mr. John Humphreys on "Sponge Gold Filling." Several cases of interest to the profession were brought forward. Mr. Huxley showed a case of excision of the jaw for tumour (with denture); Mr. F. W. Richards a case of excision of half the jaw replaced by artificial palate; and Mr. Breward Neale showed a patient for whom he has constructed an artificial nose, palate, &c. Papers on "Man's Lost Incisors," by Professor Windle and Mr. John Humphreys, and on "The First Permanent Molars," by Mr. Charles Sims, were read. Discussions on each subject followed, and at the conclusion the members dined together at the Clef Club, under the presidency of Mr. Breward Neale. Amongst those present at the dinner, in addition to most of those who attended the meeting, were Messrs. Lawson Tait, T. F. Chavasse, Gilbert Smith, H. J. Palmer, Gordon Nicholls, and Vinrace. The chief toasts were, "The Central Counties Branch of the British Dental Association," proposed by Mr. T. F. CHAVASSE and responded to by Mr. F. E. HUXLEY; "The Birmingham Dental Hospital and School," proposed by Mr. LAWSON TAIT and responded to by Mr. C. SIMS; "The President," proposed by Mr. W. E. HARDING; and "The Odontological Society," proposed by Mr. F. W. RICHARDS and responded to by Mr. J. WALKER. A vote of thanks was also passed to the Committee of the Clef Club.

Midland Counties Branch.

AN open meeting of Members and Associates will be held on Saturday, October 30th, at the Young Men's Christian Association, Peter Street, Manchester, commencing at 6 o'clock. Any subject of professional interest may be introduced.

The Council will meet at 3.30.

W. H. WAITE, *Hon. Sec.*

ORIGINAL COMMUNICATIONS.

On a Simple Method of Photographing Biological Subjects.*

BY T. CHARTERS WHITE.

It will be generally acknowledged that medicine in its progress has drawn largely on the physical sciences for aid in the elucidation and demonstration of physiological and pathological phenomena. Electricity, magnetism, chemistry and mechanics have all been enlisted on the side of medical progress, and that branch of science to which I wish to direct your attention has been more and more employed in its aid as the difficulties surrounding it have been overcome. Photography, apart from its fascination as an art-science, carries with it so many advantages in the true and faithful delineation of detail, that in biological investigation its aid is invaluable, for although many prefer drawing histological subjects by means of the camera lucida, this process takes more time than would be occupied in photographing it, and the result may be more likely to be tainted by any bias dwelling unconsciously in the mind of the draughtsman.

It has occurred to me that there might be some present to whom the advantage of this process may be hidden behind a barrier of imaginary difficulties, which needed but a short explanatory paper to show how, with a little trouble, this method of recording histological work can be accomplished. In treating of this subject, I shall endeavour as much as possible to confine myself to my own observations and method of work, and thus, while not ignoring the valuable work done by others, speak from my own experience, and offer it to you for what you may deem it worth.

Photo-micrography, to be successful, must be approached by easy stages; it is of very little use to plunge *in medias res* by employing high power objectives before the comparatively simple routine of taking a photograph with a low power has been mastered; and simple as this routine is, there are difficulties which present themselves at every turn, but by careful attention and experience they can be overcome, and the operator rewarded with a satisfactory result.

In photo-micrography we have the converse of micro-photo-

* Read at the Annual General Meeting, August, 1886.

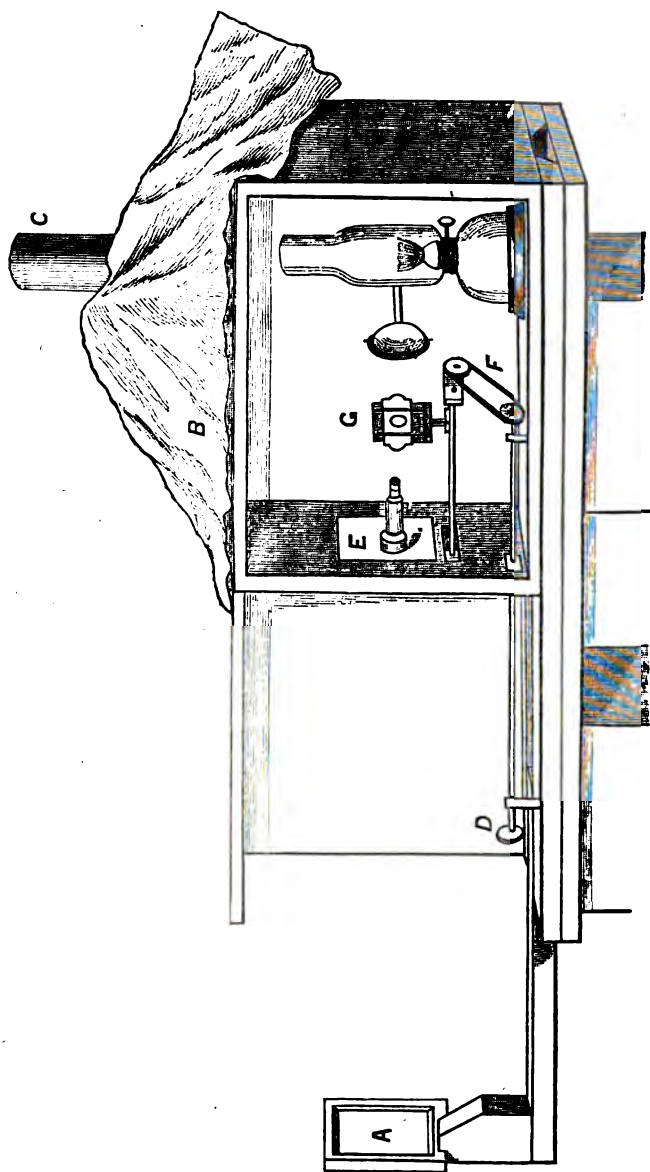
graphy, which is applied to the making of such small photographs as to require the aid of the microscope to render them visible, while photo-micrography is applied to the portrayal of microscopic specimens by photographic enlargement. My reason for mentioning this distinction is to correct a tendency very generally prevalent that these terms are mutually convertible, and may be used with indifference.

Photo-micrography has been practised many years, but I have not thought it desirable to swell the dimensions of this paper by giving a full history of its rise and progress, but for those of my hearers who may feel interested in working out this history, I may say that Dr. Lionel S. Beale, in his valuable book "How to work with the Microscope," 1865, states that Mr. Dancer, of Manchester, produced photographs of microscopic objects about 1840. From that time forward various workers in this field of science, both in America and England, have taken it up with increasing satisfaction in the success of their results. It is to be regretted that the records of their labours are too scattered up and down throughout the literature of science to permit of my searching them up, and bringing them within the compass of this contribution; but I have appended a sufficient bibliography at the end which will be found to supply the needs of those who feel a desire to acquaint themselves with the labours of others.

In all the processes described by these various authors, the microscope has been employed in conjunction with the camera, and beautiful results have been attained thereby; but while fully admitting this, I have never felt satisfied with the constricted field of view produced by the microscope tube; therefore, in the method I wish to introduce now, I discard the use of the microscope entirely, the advantages I claim for this being—first, the field of view is only limited by the size of the sensitive plate employed, a great range of amplification is obtained by varying the distance between the objective employed and the sensitive plate, and an amplification suitable to the subject can be easily selected. A second advantage derivable from my arrangement is in the ability to see your image and arrange it according to the part you desire to photograph; this can be done on the ordinary ground focusing glass of the camera, as you are aware, but when the image is thrown on to a white ground, as it is in my apparatus, it is more easy to select any particular portion, and to focus it roughly. This method is only suitable for photographing trans-

parent objects, but as it is more immediately designed for the delineation of histological subjects, nothing can exceed its adaptability to do this in comfort and ease.

Before proceeding further, it may make my remarks more readily understood if I briefly describe the photographic arrangement I employ. Imagine an oblong lidless box, laid on its side, and securely screwed to one end of a base board, two inches in thickness and two and a half feet in length; the upper central part of this base board, about one inch in thickness, is made to slide in a dovetailed groove—the end of this sliding part carries the holders for the plates employed—this holder being an ordinary printing frame, in which photographic negatives are printed from. I vary the size of the holder according to the amplification I require, and by means of this sliding holder can diminish, or greatly extend the magnification as may be desired. The upper side of this box has an oblong opening cut in it over which a tin chimney is fixed, thus allowing my lamp to approach or recede from the object stage as may be desirable. Another opening is made in that side of the box which faces the plate holder and central with it; this opening is closed by a movable brass plate, having an adaptor with the standard microscopical screw soldered into it: this permits any objective with the Society's screw-gauge being employed. Below this plate a support carrying the movable stage is fixed to the side of the box, this stage being moved backwards or forwards by a long micrometer screw, the subject to be photographed is made to approach or recede from the objective till a sharp image is thrown on the screen; the best focusing screen is made by covering an old glass plate of any of the standard sizes intended to be employed, by gumming on a sheet of the smoothest white paper, this enables the operator to arrange the object according to his judgment, and permits of a certain amount of rough focusing. The finest focusing must be arrived at by other means; another plate of plain glass put into the holder, having *fine* lines drawn a short interval apart with a writing diamond on the surface of it, which faces the objective, is looked at from the back through an ordinary eye-piece or a photographic focusing glass, and when the details of the objects are seen sharply at the same time as the fine lines, a sharply defined image will be thrown on the sensitive gelatin plate, which it is intended shall occupy in the holder the place now occupied by the plain glass.



A—Frame for receiving sensitive plate and focusing screen. **B**—Black velvet curtain for shutting in the light. **C**—Chinney.
D—Handle of focusing rod. **E**—Sliding plate for changing objectives. **F**—Endless band acting on fine adjustment of
G—The object carrier.

The light is derived from a microscopical lamp, burning the purest paraffin oil, in which is dissolved a lump of camphor of the size of a walnut to the ordinary reservoirful; this whitens the flame and renders it more actinic; a plano-convex lens, with the convex side towards the flame, serves to concentrate the light on the object. A curtain of black velvet falls over the front of this arrangement, shutting all light in, and a shutter cuts off the rays coming through the objective till all is ready for them to fall on the sensitive plate during the proper time of exposure. Now this is in brief a short description of the apparatus I employ, and it next demands a few directions relative to the *modus operandi* practised.

The lamp having been lighted and placed inside the box is allowed to burn some short time before commencing work, that the wood and brass work may be warmed up, for if this is not done the expansion of these after you have focused your object will result in a blurred picture. Your microscopical slide may next be placed in position, and its projected image arranged on the white paper surface of the focusing screen. You will soon learn to see by the character of this image whether it will require a long or a short exposure, whether it reveals much detail or is marked by its entire absence, or whether its colour favours photography or not; if the object or its image possesses detail of a fairly well-marked character, and the object is not too thick you may calculate upon getting a successful result if you give the *correct* exposure, and now you are brought face to face with the first of the difficulties.

A most valuable paper on photo-micrography by lamplight may be read in Nos. 13 14-15 of the *British Journal of Photography*, for 1885, written by an accomplished American optician, Mr. W. H. Walmsley, and which I strongly advise those interested in this subject to read, it is most succinctly and clearly written and contains the whole gist of the subject. In the matter of normal exposures by lamplight, he gives the following table which may be taken as approximating to the correct, but may require modification by each operator. When using

$1\frac{1}{2}$ in. objective	...	...	3—45 seconds.
$\frac{3}{8}$ " "	...	...	7—90 "
$\frac{1}{10}$ " "	...	...	$\frac{1}{2}$ —3 minutes.
$\frac{1}{3}$ " "	...	...	2—7 "
$\frac{1}{10}$ " "	...	...	4—10 "

In working out this branch of photography, I have had no help from books or friends, and my experience tallies exactly with that of Mr. Walmsley, and I can fully endorse all he recommends.

Having selected your objective and focused your image, cut off the rays of light from the screen and shut in every vestige of light. Now being in perfect darkness, light your non-actinic lamp; these are sold of various patterns, but may not be actinically safe, as I have found to my cost upon several occasions. That I use is a paraffin lamp with all light blocked out through the reservoir, an argand wick and a tubular chimney well coated inside and out with Thomas's ruby varnish; this will afford abundance of safe light at eighteen inches distance. By this light take your sensitive plate from its box and put it into the focusing frame, when its gelatine surface ought to be in exact register with the fine diamond markings by which you get the true focus; then open your objective and let the image of your preparation fall on the gelatine plate for the number of seconds or minutes given in Mr. Walmsley's table, after which shut off the light again and proceed to develop. I need not say much on this subject, because it has been very fully treated in all the elementary books on photography. Some operators prefer the ferrous oxalate developer, while others adopt that which is known as the alkaline pyrogallie acid. I have used both, and although I have got very good negatives with the pyrogallie acid, I prefer the ferrous oxalate, because it does not stain the fingers, which is an important feature in our profession. As some of those present may like the simplicity as well as the cleanliness of this developer, and as this paper may be perused by those to whom the subject may be entirely new, I might trespass on the time of this meeting sufficiently far, as to give the formula for making it. Having made two *saturated* solutions, one of neutral oxalate of potash, and another of sulphate of iron, add them together in the proportion of one part of iron to three parts of oxalate of potash, *taking care always to add the iron to the potash*, it makes a dark sherry coloured mixture: if it is feared that the plate has been slightly over-exposed, add a few drops of a 10% solution of bromide of potassium, which acting as a restrainer keeps back the too rapid development of the image. Keep up the development till the general ground of the plate does not transmit any light and all detail is out in the image, then give the plate a good rinse in a pail of water and place it in the fixing bath, the solution in which,

is made by dissolving four ounces of hyposulphite of soda in a pint of water, let the plate remain in this some minutes after the bromide of silver, which has not been acted upon by the light, and which remains yellow, is dissolved out, when it may be removed and washed copiously in running water, dried spontaneously and varnished, when it may be printed from.

Further details of this process may be obtained from the many small and excellent treatises dealing with ordinary photography, and therefore I need not take up the time of the meeting in describing what may easily be read in them; but I can assure my hearers, that the process by means of my photographic arrangement reduces photo-micrography to the greatest simplicity, and enables anyone to delineate sections of teeth or membranous tissues with the greatest ease. When powers higher than one-fifth of an inch focus are used, it might be desirable to have a more powerful light than that afforded by the paraffin and camphor, but as a rule that will be found sufficient for such powers as we are most likely to employ, especially if the edge of the wick be presented towards the object. A further use to which this apparatus may be put is as a projection microscope. A screen of tracing paper taking the place of the focusing screen, and of any convenient dimensions, may be made to receive the image in a darkened room, when several persons can examine it with as great facility as if looking at it through the microscope. Another use may be found for it, a plane mirror silvered on its face and fixed at an angle of 45° , with the course of the rays as they pass through the objective are thrown down on a sheet of drawing paper, and thus the image may be traced and even coloured in its natural colours. But I must not trespass further upon the time of this meeting, but bring my contribution to a close by inviting an inspection of the album of photo-micrographs I have executed with the apparatus, asking you not to view them critically, as I know they are beneath that, but to see that, but for a certain amount of native stupidity inherent in the author, they might have been better.

Works dealing with Photo-micrography.

Dr. LIONEL S. BEALE, "How to Work with the Microscope." Third edition, 1865; pages 149-188 and bibliography.

British Journal of Photography, Nos. 13-14-15.

"Photo-micrography," by Dr. A. C. MALLEY, published by H. Lewis, Gower Street.

Various papers scattered about in Transactions of the Royal Microscopical Society.

British Journal of Photography, for August 13th, 1886.

Dental Irritation in Relation to Diseases of the Eye.*

BY LOUIS TOSSWILL, B.A., Cantab., M.R.C.S.Eng.

MR. PRESIDENT AND GENTLEMEN,—The subject of my paper is one, I venture to think, of much importance both to the ophthalmic and dental surgeon, for whilst surgical specialism, or, in other words, differentiation of labour in surgery, is being yearly more strictly practised, and whilst the advantages thus accruing to the general public are becoming every year better recognised and appreciated, so *pari passu*, is the close sympathy which exists between the different organs of the body becoming yearly better known; and with it is growing a conviction of the importance to the specialist of studying carefully the influence exercised by other organs upon that in which he is specially interested. It seems to me that in this direction lies the natural counterpoise, and the best corrective to what is for obvious reasons the chief fault of the specialist, namely, a tendency to disregard all organs save the one which he has taken under his special charge. Modern investigation seems, indeed, to be pointing more and more convincingly to the fact that distant, and apparently most dissimilar organs nevertheless exercise a very real and tangible influence upon each other, just as in our solar system every planet, and even every asteroid, exercises a distinct influence upon every other component of the system, not excluding even the sun itself. I may instance a case in which touching the tragus of a diseased ear caused peculiar movements of the eyes, and a case of aural polypus where nystagmic movements of the eyes were produced whenever the loop round the polypus was tightened, or even pulled; and yet another and most remarkable case in which occasionally intense pain was felt in one knee. It was ascertained that this latter pain was produced whenever a certain tooth was touched, and extraction of this tooth was followed by complete and lasting cessation of the pain. If, however, it be true that every organ in the body exercises a distinct influence upon every other, *a fortiori*, does this hold good where organs are so intimately connected through the

* Read before the Annual Meeting of the Western Branch, 1886.

nervous system, as are the eyes and teeth. A very striking example of the sympathy existing between organs thus connected through the nervous system, was mentioned to me a few months ago by Mr. Langton, of St. Bartholomew's Hospital. But so many cases have now been published, in which affections of the eyes have apparently been found to depend upon pathological conditions of the teeth, that I do not propose to add to what I have already said, by endeavouring to prove what appears to have been already demonstrated, especially since a most excellent *resumé* of the whole subject is to be found in a paper communicated by Mr. Power to the Odontological Society in November, 1883. I propose, therefore, to assume the connection which exists between dental irritation and diseases of the eye, and to content myself with drawing your attention to a few practical points which very nearly concern both the ophthalmic and the dental surgeon. One point upon which at present a very wide divergence of opinion exists is the frequency with which we meet with these cases, and it is obviously of importance that more definite information should be obtained on this point. In illustration of this difference of opinion I may instance on the one hand that Mr. Searle stated in 1883, that he had not met with more than one undoubted case of disease of the eye due to dental irritation, and on the other hand it was stated by one of the speakers at the recent Ophthalmological Congress, that he had met with so many of these cases that he had recommended that a dental clinic should be attached to one of the French ophthalmic institutions. This difference of opinion may, perhaps, be partly explained by the fact that the first observer was a dental surgeon, and the second an ophthalmic, for it is obvious that the dental surgeon is more likely than the ophthalmic, to overlook these cases. If this be so, it becomes a matter of great practical importance, that the dental surgeon should know which are the particular ophthalmic lesions which are most frequently associated with dental irritation, for it is not reasonable to expect that he should study the wide field of ophthalmic disease in general. And here, I think, I cannot do better than quote the concluding sentence of Mr. Power's admirable paper: "In conclusion then, I think it may be laid down as a maxim to be generally observed that in all cases of threatening glaucoma, especially when this is associated with ciliary neurosis and obscure pains in the temples and maxillary orbital regions, in all cases of mydriasis, and probably of myosis, originating without apparent

causes—in all cases of sudden paralysis of either of the orbital muscles, or of loss of sensation in the absence of cerebral symptoms; in all cases of phlyctenular disease of the conjunctiva; in all cases of ulcers of the cornea resisting ordinary treatment; in all cases of sudden failure of accommodation, especially in young children; and finally, in all cases of ex-ophthalmia, the condition of the teeth should be examined, and, if faulty conditions present themselves, these should be at once rectified, and then one at least of the possible causes of each of these diseases will be removed."

To this list I would add those which were mentioned at the recent Ophthalmological Congress, namely, amaurosis, asthenopia, amblyopia, and cloudy vision. It may be as well to mention that cases of amaurosis are recorded where recovery from partial or even total blindness has followed the extraction of carious teeth.

A case in point is recorded in the *Lancet* of the 10th inst.: "Dr. ———, a Swedish surgeon, having as a patient a young girl in whom he was unable to detect the slightest pathological changes in the right eye, but who was yet completely blind on that side, observing considerable defects in the teeth, sent her to a dental surgeon, who found that all the upper and lower molars were completely decayed, and that in many of them the roots were inflamed. He extracted the remains of the molars on the right side, and in four days' time the sight of the right eye began to return, and on the eleventh day after the extraction of the teeth it had become quite normal. The diseased fangs on the other side were subsequently removed, lest they should cause a return of the ophthalmic affection."

In referring to the influence thus exercised over the eyes by carious teeth, an ophthalmic surgeon instinctively thinks of sympathetic disease, as he meets with it in his own branch of practice, and I wish to draw your particular attention to one or two important points respecting it, premising however that time will not allow me to do more than touch briefly upon them. One point is especially noteworthy, namely, that when the eye has been injured, especially in certain kinds of injury, no lapse of time ensures the immunity of the other eye from sympathetic disease, this especially holding good of cases where a foreign body remains embedded in an eye, or where an eye has been wounded in the ciliary region.

Those cases where sympathetic disease of one eye has been caused by a foreign body in the other, and this after a considerable lapse of time, acquire a peculiar interest when taken in

connection with a remarkable case of a foreign body in a tooth, related by Professor Galezowski: "F. P——, thirty years of age, possessing a good constitution and enjoying good health, with the exception of pains in the head and limbs, which never lasted long, suddenly experienced in the autumn of 1825 a violent pain, shooting from the left temple to the eye and the side of the face. He ascribed it to cold. This pain lasted several days, then lessened and re-appeared from time to time, without being sufficiently severe to induce the patient to seek medical aid. In about two months it suddenly increased in intensity,—occupying the eye particularly,—with a feeling as if it would pass out of the orbit. F. P—— now discovered that he was blind with that eye, and applied to a neighbouring physician, whose treatment, although continued for two months, did no good. The pain, however, was no longer continual; it assumed a somewhat periodical character, leaving the patient easy for some hours of the day. At the end of the following six months the pain increased, the cheek swelled, some spoonfuls of bloody matter were discharged by a spontaneous opening in the lower eye-lid, after which the swelling subsided and and the pains nearly disappeared, although the blindness remained complete. The discharge was renewed from time to time during the following six months, and there was no great suffering. But in the autumn and winter (1826) the pain, particularly in the eye, became so violent that F. P—— came to Wilna in the beginning of 1827, determined to have the organ extirpated, if no other remedy could be found. Professor Galezowski found the left eye totally insensible to light with the pupil dilated, and no other visible alteration. The pain, not then so severe, consisted in violent occasional pricking and darting sensations in the left temple and parts round the eye. There was discharge from the lower eye-lid. The first molar tooth of the left side was carious. It had not caused much uneasiness, and the toothache, when it existed, had not coincided with the pains in the temple and eye. The Professor determined on removing the tooth, and having done so, was surprised to see a small foreign body at the extremity of the fang. When drawn out, it proved to be a small splinter of wood, about three lines in length, which had traversed the centre of the tooth, and had probably been introduced in picking the teeth. A probe was passed from the socket into the antrum, from which a few drops of thin purulent fluid escaped. The pain ceased almost entirely, and on the same evening the eye was sensible to

light. Vision gradually improved, so that on the ninth day the patient could see as well with the left eye as with the right, after a blindness of thirteen months. On the eleventh day he left Wilna to return to his family."

It is also especially important to remember that an eye may, to all appearance, fully recover from an injury, and yet it may eventually cause sympathetic disease of the other eye. A very instructive case of the kind was mentioned to me by Mr. Anderson Critchett. A boy, while playing in a hay field, had one of his eyes injured by a hay fork. He was placed under the care of the late Mr. Critchett, who, recognising the gravity of the case, called Sir William Bowman and another oculist in consultation. The two latter recommended that the eye should be removed, so as to do away with the danger of sympathetic disease in the other; but Mr. Critchett resolved to run the risk and not to remove the eye, being possibly influenced to some extent by the fact that the boy's father was abroad and might resent his boy's eye being removed without his consent. The eye got better, and at length not only regained its usual appearance, but also its full power of vision. The boy's father came home soon afterwards, and was much pleased to find that Mr. Critchett had not removed the eye. Unfortunately, however, the injured eye again became inflamed, and eventually the boy lost not only this eye, but the other also, the latter from sympathetic disease.

I must ask your kind indulgence for quoting yet another case, but it is one which acquires great significance from that which I have just narrated. The case is recorded in the *British Medical Journal* of December 5th, 1885, and is headed "Lagophthalmos due to dental irritation," and proceeded; "At a November meeting of the Odontological Society of Great Britain, Mr. S. J. Hutchinson related the following interesting case of reflex nervous disturbance, caused by dental irritation. The patient, a lady, was sent to him by Dr. Gowers, in October, 1883, with a request that he would examine her teeth, and see if he could discover any probable cause for a spasm of the left eye-lid, from which she had suffered for several months. The eye-lid was drawn up by a constant spasmodic contraction of the levator palpebræ in such a manner that not only the whole of the iris, but also a considerable amount of the white round it was always visible. Mr. Hutchinson found the patient's teeth in a bad state. The left second and third molars, both upper and lower, were much decayed, and Mr.

Hutchinson extracted all four ; but though the patient no longer suffered from neuralgia, as she had before, the spasm of the eyelid was not in the least diminished. There did not appear to be anything amiss with the other teeth on that side, except that the upper first molar contained a large amalgam stopping ; but, as the tooth had never given her any pain, the patient would not consent to its being interfered with. She then returned to her home in the country, and Mr. Hutchinson saw nothing of her for more than a year. When she again presented herself, the eye was in the same condition, and Mr. Hutchinson again failed to find anything in the mouth likely to be a source of irritation, except the amalgam stopping in the left upper first molar. After some persuasion the patient allowed Mr. Hutchinson to remove this, and he then found a minute exposure of the pulp on which the filling had evidently pressed. Mr. Hutchinson advised the removal of the tooth, and the result was most satisfactory. The patient's appearance at once began to improve, and at the end of six months the difference between the two eyes was so slight that it would not be noticed by a casual observer. It was evident, therefore, in this case, reflex irritation of the third nerve had been caused by irritation of a branch of the fifth, and this in the absence of any symptoms referable to the tooth."

Here we find that a carious tooth, which had been apparently rendered innocuous by stopping, and to which therefore no suspicion attached, nevertheless set on foot the grievous ophthalmic trouble, just as in Mr. Critchett's case, an eye which had apparently fully recovered from an injury, set up destructive disease in the other eye. And this brings me to another point of great practical importance, namely, that not only may the dental and ophthalmic surgeon fail to credit dental irritation with the production of ophthalmic disease, though the latter as a matter of fact be thus produced, but even when they have arrived at this conclusion, the dental surgeon and still more the ophthalmic surgeon, may experience considerable difficulty in determining which is the offending tooth or teeth. Moreover, there is considerable risk in this way of their suspicions being diverted, and of thus becoming satisfied that the teeth are not in fault, when after all the fault lies with some apparently innocent tooth. There only remains one point worth noticing, namely, the possibility of dental symptoms being due in some cases to ophthalmic disease. This is obviously possible and as a matter of fact at the recent Ophthalmological Con-

gress, M. Gaval communicated a series of cases, in which dental disturbance disappeared after operating on the eye for glaucoma. Of course the same may hold good of other ophthalmic diseases, and it is evident that if this possibility be overlooked the dental surgeon may be discredited by an apparently unskilful stopping, or unsuccessful extraction, when all the time some ophthalmic lesion is at fault.

In conclusion, gentlemen, it only remains for me to add that the paper I have just read will not have failed, in the view of its author at any rate, if it has in any way tended to impress upon us all the very close bond which connects the different branches of the great healing art, and to remind us that if the eye cannot say to the hand, "I have no need of thee," much less can the ophthalmic surgeon afford to lose the special knowledge and the skilful manual assistance of his dental brethren.

Dentistry and Its Relation to the State.*

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THE recognition of the science and art of dentistry as a special branch of medicine and surgery is incontestable, nay, more, in this country it is unique. The speciality of dental surgery differs from all the other specialities of medicine in the extent to which the dental practitioners' services are in demand with the general public, for while but a fraction of mankind require the services of the oculist, the aurist and other specialists, it is rare to come across an individual who at some time or other of his life has not had occasion to seek the services of a dental practitioner.

The education of the dental practitioner is three-fifths medical and two-fifths special, yet that two-fifths special training is of such a peculiar nature that it has been found necessary to accept it as an equivalent for the remaining two-fifths of the purely medical course, and hence our embodiment in a special register by the General Medical Council, and a special curriculum of compulsory education enforced by the Dentists Act.

* Read at the Annual General Meeting, August, 1886.

This recognition of dental surgery as a learned profession by the State, entitles the dental profession to certain rights and privileges, viz., the recognition by the administrative officers of the State, and also entails upon us the duty of exerting all our power and energy in demanding the exercise of those rights and privileges in public function, wherever we deem our professional help can be of service to the State, not only in justice to those entering the profession after an education as long, as onerous, and as expensive as that of the general medical practitioner, but in justice to, and in the interests of, the community as a whole.

The State recognises the medical profession by certain public appointments in connection with the various departments of the State. Wherever such medical services are deemed a necessary provision, dental services as such, when required, should constitute an essential part of such provision. If dental services are required and not furnished, the interests of the State must suffer. Many public medical appointments are for carrying out special purposes and functions, such as medical officers and inspectors under the Local Government Board and Medical Commissioners in Lunacy, &c. ; but it is not the purport of this paper to inquire into the possible utility of appointments of the dental practitioner as a specialist, nor to urge the creation of new offices under the State, though there are undoubtedly many occasions when the State might derive benefit by availing itself of the special knowledge and acquirements of the dental surgeon. It is proposed to limit the scope of the present inquiry to those departments of the State in which the medical practitioner may be said to act as a general practitioner. Accepting the general proposition that medical service includes dental service as well, let us see what provision is made by the State.

In the higher departments of the State possibly recognition is complete ; as in her Majesty's household by the appointment of Sir Edwin Saunders as surgeon dentist, which post he also holds in H.R.H. the Prince of Wales's household, and Mr. Truman as dentist to the household ; as in Scotland by the appointment of Dr. Smith as surgeon dentist in ordinary, and in Ireland by the appointment of surgeon dentist in ordinary to the Lord Lieutenant. If in India and the Colonies similar State medical appointments are made, dental appointments should be equally recognised.

The principal departments of the State in which it seems time

to claim such recognition of the dental practitioner as is already extended to the medical practitioner, are in H.M. Post-office, the Police, H.M. Prisons, the India Office, but principally the Army and the Navy.

We would first of all, therefore, call your attention to the Army and the provision made for medical services in it. The regular forces of the British Army in 1882* consisted of 174,557 men, the average number abroad being 87,710, and the average number at home 86,847.

Medical attendance and service is provided by the specially trained medical staff now known as the Army Medical Department. It is the duty of this department not only to undertake all that concerns the medical, surgical, and hygienic treatment of this body of men, but also that of about 8,632 women and 16,125 children, being the wives and children of our soldiers.

From appendix A which I have been allowed to quote from the valuable paper on "Dental Surgery in the Army," read by Mr. Gaddes at the International Medical Congress, 1881, it is evident that the chief of the Army Medical Department, as long ago as 1857 was cognizant of the short-comings of the service so far as regarded the care and treatment of the teeth.

It has long been a notorious fact that, practically, the only dental treatment the soldier has received, has been that of the extraction of every aching tooth, or possibly the administration of a pill with a view of relieving dental pain. It is also an undoubted fact that too frequently the army medical surgeon leaves even this limited and ancient kind of dental treatment to the hospital sergeant, though where, when and how this latter functionary acquires his knowledge and skill must be left to your imagination, as no provision is made for it in the course of special instruction he has to undergo in the training school of the Medical Staff Corps at Aldershot. We fear that whatever skill and ability he may possess, possibly by dint of practise and natural aptitude, in some cases great, can only be acquired at the expense of untold sufferings on the part of the unfortunate soldier.

Notwithstanding this state of affairs, you will doubtless be surprised at the very practical admission of the necessity of con-

* The latest blue books to which I have had access are those published in 1884, which contains the Army Medical Report for 1882.

servative treatment of teeth as opposed to extraction, which has existed for a long time in the Army Medical Department. In the regulations of the Army Medical Department, p. 314, appears Appendix No. 24 (app. F. of this paper), which describes the contents of a case of tooth stopping and scaling instruments. A clearer and more decided admission of the point we are contesting could not possibly exist; but, at the same time, the nature of the materials and instruments provided, is equally as conclusive a demonstration of the absolute lack of a knowledge on the part of the department itself of the first requirements for attaining its object. However much we may respect the intelligent inspiration that prompted the department to make this provision in the direction of conservative dental treatment, one would only be doing a service to the nation in calling attention to the utter inadequacy of the provision, and to the consequent waste of the necessary expense of that provision.

First with regard to the materials provided, each case contains half an ounce of "silver" amalgam, a stick of gutta percha, and still more wonderful to relate, four sheets of best gold leaf. Supposing that any of you dental practitioners were called upon to operate for one of our soldiers with the army equipment, what sort of a gold filling would even the cleverest operator amongst you be able to make with the series of instruments which are officially described as :

Scalers and stoppers (4).

Excavators and roseheads (3).

If you with your slowly and industriously acquired skill would make but a poor exhibition with such a beggarly equipment at your command, is it not senseless to expect the unfortunate army medical surgeon, who has probably never received any dental training whatever, to do efficient work. That such an equipment should be seldom if ever used, is evident from the constitution of the case. No army returns of fillings or extractions are made, but I have good reason to believe that these cases are seldom returned to the central bureau for the replacement of the materials, whereas the extracting cases are returned for repairs. Some person unknown, and who deserves to be forever unknown, is responsible for the constitution of this case, and such an embodiment of professional ignorance of the elemental necessities of the provision is so great, that, for the honour and the credit of the department, it were better to erase completely

appendix 24 from the Army Medical Regulations, unless it be reformed and extended to a considerable extent. I fearlessly appeal to any intelligent member of the department if he would like the equipments provided for other sections of the service to be judged on the level of that dental equipment. Within the Army Medical Service itself there exist certain members who, having taken the diploma in dental surgery, are surely qualified to advise the department on such matters; but if in any way departmental etiquette, or "what not," prevents a reference to these quarters, surely recourse might be had to the professional advice of a civilian expert, or committee of experts. A mouth mirror for examining the teeth, a probe for exploring cavities, and a pair of tweezers or pliers, for the application of dressings, surely the first three essentials of the very simplest dental equipment, are conspicuous by their absence.

To illustrate the difference between the medical and the dental method of composing a case for the simple treatment of the teeth, see app. F. and J. In appendix J. is a fresh arrangement, inadequate enough in all but the barest necessities in order to bring it within the same insufficient outlay as is made for the present case. Inadequate as it is, it is surely better adapted to meet the requirements than is the present existing case. Need it be added that the suggested case is in no way to be taken as what should constitute even a suitable case for even temporary treatment of diseases of the teeth.

The inadequacy of the instruments provided is, however, thrown into the shade by the distribution of the equipment. It is required by the Army Medical Regulations that at the head quarters of each military district, one of these cases of tooth stopping and scaling instruments will be provided for use throughout the district. It must be placed by the principal medical officer in charge of the district quarter-master, who will be responsible for its safe custody and good condition. It will be issued on loan to medical officers in charge of hospitals within the district, on requisition of the principal medical officer, and will be returned when no longer required. When received back from loan, a medical officer and the district quarter-master will at once examine them and report on their condition to the principal medical officer.

Without enquiring as to how a provision of this kind works in the case of foreign commands, let us take one home district as an

example. The whole of Scotland forms one military district, the head quarters are at Edinburgh, troops are stationed at Fort George. If a medical officer there desires to treat a soldier's teeth conservatively, he must send a requisition to the principal medical officer at Edinburgh who would instruct the district quarter-master to forward him the case on loan.

Is it possible to suppose that with a provision of this cumbersome nature the soldier receives the benefit of "the improved modes of treatment, now all but universally adopted in civil life," which the department from their own publications seem desirous should be afforded to him. App. B. shews the areas included in the home military districts, from which the distribution of the case of tooth stopping and scaling instruments, which is bad enough in a country where civil dental practitioners are at hand, can be seen; but abroad matters must be so much worse that surprise can only be expressed that influential officers who must have suffered when cut off from access to a dental practitioner, have not called attention to this important matter.

A reference to the communication received from the Surgeon-General of the United States Army shows that while the provision there made is admittedly inadequate, how much more intelligent is the organization of the equipment for the arrest of caries by excision and filling than exists in our own Army Medical Department, (see app. H.)

At each station hospital, the equipment of surgical instruments includes a case of tooth extracting instruments (see app. F.), while each medical officer in charge of troops in barracks, or on board a troop ship, is provided with a pouch of instruments (see app. 26, F.). The distribution of the extracting case so far seems adequate, and we can even trace the distribution into the field (see app. F., par. 780, 781). With regard to the contents of the cases, many of the instruments are ill-adapted to their purpose, and some provision should be made for their periodical revision every few years. Recently we saw a pair of antiquated forceps, bearing the mark of one of the king Georges, and other instruments of an impossible description, which till the other day formed part of the Army equipment. In a recently added case I saw one pair of forceps which, from the arrangement of the beaks, seem better arranged for snapping off the crown than extracting the tooth, so much so that I would dread to use the instrument. These forceps and instruments are nearly always supplied by the surgical instrument

makers, and not by the makers of dental instruments, which may *partly* explain the defects of the equipments. All such cases should surely pass through the hands of an expert in dental requirements before being distributed.

Another point to be noted in these equipments is the absence of examination instruments, in the shape of the mouth mirror and the probe.

The provision of two completely handled elevators, would be preferable to six elevators fitting one handle. The tooth key with its three claws seems universal. Rightly or wrongly, it is an instrument I have never used or even seen used, therefore I do not feel competent to enlarge on its merits or its demerits. With regard to the field equipment, one case contains two pairs of forceps, the other four pairs. I am indeed curious to know what two, and what four pairs have been selected. It would surely be possible to leave out the ever present tooth key and substitute more forceps without increasing greatly the bulk and weight of the equipment.

In app. M. will be found a table, showing the number of applicants for admission to the army refused in consequence of defective teeth, in the Recruiting Station where my examination was conducted. This table does not include the much larger number of men with defective teeth who are refused for other causes. Doubtless a large number of those found in these tables are men who, the Inspecting Medical Officer has reason to believe, have falsely represented their age, as these over-statements of age are not infrequently apparent from the extreme deficiency of the dental armature.

Mr. Gaddes seems to think that the examination of the teeth of recruits would be better effected if the medical officer, who is the examiner, had the benefit of special dental instruction and experience. That may be so, but I can testify to the fact from experience in the examination-room of a Recruiting Station, that the medical officer is quite adequate to make this dental examination, and his refusals on the score of defective teeth would be endorsed by any dental practitioner.

I have lately been examining the mouths of the young men, who present themselves in London for service in the army. I found that there were only four out of the first hundred presenting themselves, who had a truly perfect denture, and of these two were rejected as being under chest measurement.

A reference to the table (app. N.) shows that each man on the average has lost 1.05, or would be the better of losing 2.31 teeth, together 3.36, and 4.09 carious teeth capable of preservation by conservative means, giving a total average of defective teeth per man of 7.45. There were 64 cases per cent. in which scaling was badly required, while 70 per cent. were suffering from inflamed and ulcerated gums, and 27 cases per cent. from chronic abscess, many of them in front teeth. This deplorable state of affairs is serious enough, but it has its element of consolation in the fact that only 8 per cent. of these cases were such as were beyond the limits of remedial treatment of conservative dental surgery, while 31 per cent. might have been easily made efficient with a small expenditure of time. Two of the boys examined came from the Royal Military Asylum, and both shewed the necessity of a dental appointment being made there. As the army is largely recruited from that school I was anxious to examine them, but so far have not obtained the necessary permission.

The national importance of an early attention to the teeth is surely evident from a consideration of this table, more especially when we remember that this in no way represents the actual state of the mouth of the average Londoner, inasmuch as the recruiting sergeant, who is familiar with the standard of physique and general health required by the medical examiners of recruits, must have exercised some discretion in eliminating all those he was certain had no chance of passing this examination.

From this table which includes all the applicants for admission, we may take it that, roughly speaking of the 60 per cent. of those admitted, nearly 98 per cent. would be benefited by conservative dental treatment on admission to the ranks.

As the result of a careful observation of the mouths of these men, I am certain that the health and efficiency of the individual units of our army, would be greatly promoted by the examination and treatment of the teeth of the accepted recruits, immediately on their being drafted into the ranks of their respective regiments. Were this done and followed up by a compulsory semi-annual examination of the mouth, the inefficiency or unfitness of the soldier for military service, could rarely be assigned to a defective condition of the teeth as a direct cause.

The existence of a special equipment designed for the preservation of the teeth, no matter how inadequate it may be in the

opinion of the dental practitioner, must be a direct recognition of an existing want. Surely something more is required than the mere provision of the necessary materials and instruments, viz., some knowledge and training in the treatment of the diseases of the teeth, and the use of dental instruments. Dental surgery enters into no part of the special training at Netley, required by the Army Medical Department, nor is it generally included in the medical training of the candidate before entering the service.

There are two obvious methods of making such a provision, neither of which has been adopted. The first is the suggestion made by Mr. Gaddes in his paper, viz., that a systematic course of lectures and of operative work be included in the subjects of study at the Army Medical School at Netley. The second plan would be that of requiring the army medical candidates to produce a certificate of having attended such a special course of dental lectures with clinical dental experience, and to pass a written and practical examination in dental surgery. Either of these courses would be satisfactory. The former plan is the one most likely to recommend itself to the dental practitioner, but the department have a very good answer to this contention. The object of the special course of instruction at the Army Medical School at Netley, is to instruct the surgeons on probation in all medical, surgical and hygienic matters peculiar to military life. It could not be contended for a moment that the dental instruction we advocate has in it anything specially of a military nature. The department may therefore fairly argue that it is not their province to provide this instruction, but that of the medical schools. Inasmuch as it is an undoubted fact, that the ordinary medical student receives no instruction such as we have indicated as being necessary for graduation, the corollary of the refusal on the part of the department to provide the dental instruction, is the enforcement of the institution of such a course in the medical schools, by exacting a knowledge of the general principles of dental diseases with clinical experience from the Army Medical candidates. We are strongly of opinion that it would be to the interest of the public that such a dental course as we have indicated should be made compulsory on all candidates for the medical profession, if only for one reason, viz., that as a matter of fact, the ordinary medical practitioner is responsible for such attention to the teeth as one gets in the first years of his life, he being in fact the first family dentist. The adoption, therefore, of the second plan we

have suggested would be a powerful lever for bringing about that end, and besides achieving the object the department has in view, it would be the means of achieving incalculable benefits to the public at large, because of the general lack of knowledge on the part of the medical practitioner of diseases of the teeth.

There is, however, a third plan which might be adopted by the department, and which, we think, has much to recommend it. The education of the Army Surgeon is not considered complete on his passing the final examination at the Army Medical School at Netley, and an examination has been instituted "to test the progress and proficiency of the surgeon in all those branches of knowledge which are essential to his continued efficiency as a medical officer, and may be taken any time between his fifth and tenth year of service." The necessary fees incurred are defrayed by the department.

A reference to Appendix F. shows the subjects embraced by this examination, and I would propose the addition of the following clause in section 2 :—

(b*) Dental surgery, operative and practical.

Also that another section be added between 3 and 4, viz.,

A certificate will be required from a recognised teacher of dental surgery in any medical school at home or abroad in which dental surgery is taught, or in any recognised dental school, making the necessary provision, showing that the medical officer has attended a special course of at least twenty lectures on dental surgery, and has gone satisfactorily through a complete course of clinical instruction of not less than three months, during the period within which the examination must be taken, and that he is a competent operator.

We would also propose a further amendment, viz.,

5. That any medical officer possessing any dental qualification recognised by the General Medical Council will be exempted from examination in dental surgery.

The fact, as mentioned by Mr. Gaddes, that members of the Army Medical Service wishing to improve their knowledge and skill in dentistry have attended the special course of instruction at certain of the dental schools, and have qualified themselves in some instances by taking their diploma in dental surgery; and though these are very exceptional instances, they indicate the feeling of want of knowledge in dental matters, which is truly the general feeling of the Army Medical Service.

If one or other of these plans were adopted by the department, and the present inadequate case of tooth stopping and scaling instruments as reformed and improved, were to be supplied to the army to the same extent as a case of tooth instruments,* viz., at each station hospital, something like a reasonable provision would be made for at least temporarily relieving the suffering soldier of dental diseases conservatively.

It may be taken for granted, however, that the Army Medical Surgeon has his time pretty fully occupied, and he could not be expected to do more than merely relieve pain by temporary expedients.

In order to place the soldier in the fullest state of dental fitness, it would be necessary to replace the tooth stopping and scaling instrument case at head quarters by the provision in each military district of an equipment of dental instruments, appliances, and materials, such as we find to-day in any well-equipped dental surgery, under the direction of an army dental surgeon, who would be required to hold the L.D.S. diploma, and to make monthly and annual returns of the diseases treated on Army forms, as is required for other cases of sickness, under the statistical regulations of the "Army Medical Regulations." In fact we propose a similar arrangement so far as completeness of equipment is concerned, to that already existing in the Naval Academy at Annapolis in the United States, see app. I.

It would naturally take some considerable time to develop such a scheme of dental organization within the department, and the question might well be mooted, if it would not be well for the department to make a series of purely dental appointments for the meantime. If this were done, these establishments might be utilized as probably the most convenient and accessible schools of dental instruction of the ordinary Army Medical Surgeon in that special course of dental surgery which we think necessary to his fullest efficiency.

If, during times of peace, both officers and men were required to provide a certificate of having had the state of their mouth and teeth certified as sound at one of these military district dental hospitals, there would be little fear of their efficiency as soldiers being impaired by any serious dental affections when engaged in

* A good arrangement would be a combined tooth stopping and extracting case as suggested in app. F.

active service in the field, which could not be relieved by temporary expedients from the tooth stopping case to be supplied alongside with the tooth extracting case in the field store waggon.

The necessity of dental appointments in the army has occupied the attention of our *confrères* in America, and in August, 1861, the American Dental Convention appointed a committee. This committee conferred with Surgeon-General W. A. Hammond, and the matter was very favourably received by him. No positive action was taken until 1868, when a Bill authorising the appointment of dentists in the Army and Navy was drafted and presented before both houses of congress, which was referred to a committee on Naval and Military affairs, by whom no decided steps were taken. A second Bill was introduced advocating dental appointments at the United States Naval and Military Academies, when the subject was again referred to the committee. The present Surgeon-General of the United States army has kindly informed me, "That no general provision has been made by this government for providing the services of experienced dentists for our troops. The military academy at West Point has a regular dentist on duty, and it is believed that such is the case at the naval academy at Annapolis. In the army there are several accomplished practical dentists in the corps of hospital stewards, but these are exceptions to the rule. The medical department of the army has tried to arouse interest among medical officers in the matter of the care and treatment of the teeth, by furnishing such instruments as are needed on requisition. The dental cases in the supply list for issue consist of an extracting case, and a small case for making excavations and temporary fillings. These latter are supplied only to frontier posts, where it is not practical to obtain the services of a dentist. . . . Congress has been appealed to on several occasions to authorize the employment of dentists, but so far has taken no definite action. It is probable, however, that in time proper provision will be made in this necessary and valuable branch."

With regard to our own army medical department, the two points on which we are desirous of insisting are the necessity of, firstly, the reform and the extension of the present dental equipment, and secondly, the systematic instruction by lectures and operative work of every medical officer. This instruction will enable him to know when and where the resort should be had to the services of a more highly-trained expert, and in the mean-

time, to intelligently relieve, temporarily at least, all acute suffering from diseases of the teeth.

In order, however, to introduce into military medical practice all the improved modes of treatment now adopted in civil life, it would be necessary to appoint a restricted number of medical officers possessing a recognised qualification in dental surgery, whose duty it would be to devote all their time and attention to the more permanent care and preservation of the soldiers' dental armament.

The specially mechanically trained skill of these latter would enable them to treat certain cases more effectively than the ordinary surgeon, no matter how highly qualified, as for instance, the treatment of fractured jaws, and the prosthetic treatment of gun-shot wounds in the neighbourhood of the mouth.

The next department of the State to which I should like to call your attention will naturally be that of the Royal Navy. Since beginning these investigations I find that to undertake them thoroughly, has proved much more onerous a matter than I had supposed, that is to say, if the work is to be completely done. Although in the Navy the Medical Department is constituted very much upon the same lines as the Army Medical Department, there are many conditions so entirely different that I shall have to reserve a thorough and more exhaustive paper to the next meeting of our Association. In the meanwhile, I must satisfy myself by mentioning a few generalities.

The age of those entering the Navy, 15 to 16½ years, differs widely from those entering the army, 17 to 25. The short service system, too, now adopted in the army, has not been extended to the navy. The young sailor undergoes a period of training until the age of 18 years, when his period of service begins to count. After 12 years' service, when he is 30 years of age, if his character is good, and if he cares to remain, he can re-enter the service for the further term of 9 years.

The recruiting examination, so far as the condition of the teeth is concerned, is infinitely more strict for the navy than the same examination for the army. From the well known valedictory address of Mr. Spence Bate, as President of the Odontological Society, it would appear that the regulations published by the department are perhaps unnecessarily strict, or at any rate injudicious, but a similar series of statistics of examination of recruits by a competent dental practitioner, such as I have made for the

army, would throw considerable light on the matter, and I hope to have the opportunity of making that examination before the next meeting. In consequence of this stringency of the dental part of the entrance examination, the impression may be created in the department that there is little necessity of making any provision for the conservative treatment of the teeth of the sailor, but knowing as we do, from M. Magitot's table, that the age of from 20 to 30 years is just the period in which dental disease most frequently requires treatment, it is impossible to suppose that out of the total force of 43,475 officers and men, that diseases of the mouth and teeth are unknown. In a short conversation with a long service man now engaged in recruiting, he informed me that acute suffering from the teeth was not at all an uncommon occurrence on board ship, that so far as he knew, extraction was the only treatment, and he had never known of a sailor having had a tooth stopped except by a civilian practitioner, for which he paid. He himself had lost nine teeth in his period of service, two had been extracted by the naval surgeon, the other 7 had been extracted by the sick berth steward (and judging from the excellent quality of his remaining teeth, he might probably have had a full dental armature, had he had the benefit of timely remedial treatment). In fact, the sick berth steward seems to be the analogue of the hospital sergeant in the army, in so far as the extraction of teeth is concerned, as well as in other matters.

The re-constitution of the sick berth staff of the Navy is quite recent. A course of instruction at Haslar is required, which includes instruction in elementary anatomy, in bandaging and dressing, and also includes exercises in "First Aid to the wounded." The junior medical officers of the hospital are appointed to give this instruction, for which they receive a small addition to their pay, such as is allowed to a medical officer of the same rank for assisting in the medical course.

The naval surgeon undergoes a period of training at the Royal Hospital, Haslar, and so far as I have been able to learn, there is the same lack of knowledge of dental diseases on the part of the Naval surgeons as exist in the Army Medical Department. When afloat, the Naval surgeon has to provide all his instruments, which includes a case of extracting instruments. Ashore, the department provides instruments, but as there are no regularly published Medical Regulations containing details of equipments as in the Army, we can say nothing of the dental equipments, except that no tooth stopping case is provided.

One of the principal acting surgeons of the United States Navy writes to me as follows :—"The medical department of the navy furnishes ships of the Navy with a 'Dental case,' containing eight forceps for extraction, two elevators and a lancet, no instruments for filling teeth. A 'Dental Surgeon' is attached to the Naval Academy whose duty it is to attend to the teeth of the Naval cadets. He has an office in the hospital building, and has all the instruments and modern appliances American dentists require, probably more than they require. The cadets pay for material used in filling teeth only, the services of the dentist they get gratis. He formerly had the rank and pay of an assistant surgeon, 'acting.' When this rate was abolished by Act of Congress, he was specially legislated for. His pay is now sixteen hundred dollars a year. Not bad considering the time required to do his work. Various bills have been introduced into Congress, the object of which was the appointment of dentists in the Navy, but none have been adopted as yet. I opine it will only be a matter of time though when dentists will be admitted into the Navy. Their services are certainly required by men and officers. I had a practical dentist with me as 'apothecary' on my last ship I served on. He did a great deal of dental work for which he was paid by those on whom he operated. Naval medical officers do not know anything about the practical work of dentistry as far as my experience goes. As it is we exclude those whose teeth are bad from the Navy, doing away with the necessity of doing work of this kind."

Recognising as we must that diseases of the teeth is one of the primary causes of other diseases in the system, I have prepared a table of returns of diseases of the digestive system in the army (see app. D. and E.) and by so doing we are enabled to compare them with a somewhat similar return made in the Navy. It is only reasonable to suppose that a certain unknown proportion of these diseases of the digestive system have their origin in a diseased condition of the teeth, and while it is utterly impossible to arrive at any calculation as to the amount of that proportion, we might reasonably expect that as the sailor starts with a more efficient dental armature than the soldier, that the return of the diseases of the digestive system should contrast favourably with the same return from the army. A reference to app. E., in which the ratio per thousand of the strength for the same period of ten years gives us favourable statistical results in favour of this con-

tention, even if a liberal allowance is made for other important factors, such as a lesser exposure to the evil effects of alcoholism.

The marine service is also under the care of the Navy Medical Department. The age of the recruits for this service is from eighteen to twenty-four years. The examination, so far as the teeth are concerned, is also extremely strict, and is conducted by the medical examiner at the naval medical recruiting department. The period of service is for twelve years, with the option of serving an additional nine years if his conduct is good. It is generally understood that at the medical re-examination for this fresh period of service loss of teeth is not usually a cause of rejection. Artificers, too, are subject to much the same regulations. Since December, 1885, the Admiralty have been making the experiment of sending certain of the candidates with defective teeth to be put in order at the Dental Hospital. This is a step in the right direction, though it may be questionable how far the State is justified in making such use of a charitable institution. A recruiting officer recently informed me that from his experience he was convinced that some provision should be made for the remedial treatment of the teeth in those of both sections of the navy.

We cannot but think that it would contribute greatly to the efficiency of the Naval Department if similar requirements were made with regard to dental instruction and dental appointments, such as we have indicated as being necessary in the Army Medical Department, with, of course, certain modifications to suit the special exigencies of the Naval Medical Department.

(To be continued.)

HOSPITAL REPORTS AND CASES IN PRACTICE.

Case of Epuloid Growths connected with an Impacted and Encysted Wisdom Tooth in a Man, aged 70.

By DAVID HEPBURN, L.D.S.Eng.,

DENTAL SURGEON, DENTAL HOSPITAL OF LONDON, LEICESTER SQUARE,
Treated at the Dental Hospital of London.

In August last, Edward M——, æt. 70, house painter, came to the hospital complaining of severe neuralgic pains affecting the right side of his face, head, and jaw, but stated that there was numbness and loss of sensation over the region of the mental foramen. He also said that for some time past he had suffered

from severe hæmorrhage in the mouth. He first noticed these symptoms of pain about eight months ago, and applying to a private practitioner for relief, had the second lower molar removed, but without beneficial result. Soon after this a morbid growth had arisen in the back part of the mouth at the angle of the jaw.

On making an examination of the mouth, I found the mucous membrane of the cheek much swollen and oedematous, and at the ramus an epuloid growth of considerable size, which had expanded itself over the alveolus as far as the first molar tooth, and seemed, to merge into the puffy mucous membrane of the cheek.

The examination, even with the finger, produced a profuse flow of blood, which repeatedly filled the mouth and rendered accurate observation very difficult. However, as it appeared that the growth was not adherent to the surrounding tissue, I determined to remove it at once. With the assistance of my dresser, Mr. Fairbank, a clove-hitch silk ligature was passed around the tumour, and it was our intention to tighten the knot and allow the growth to slough off, but the tissue proved so friable that the ligature broke through the peduncle and the mass came away. Stiptics were applied to arrest hæmorrhage, and with some precautionary instructions the patient was dismissed and directed to return in a week.

After the expiration of a fortnight I saw him again. The growth had apparently returned and was about the size of a small walnut, its surface corrugated in a similar manner. Careful examination revealed no sign of any root or tooth near the pedicle. The growth now appeared to nestle in a cavity, and as no bad effect had followed the last operation, I immediately excised the secondary tumour with the scalpel, and plugged the cavity with lint and tannin. After this the patient expressed himself as feeling much relieved. There no longer occurred the distressing hæmorrhage, which for months had been a source of so much discomfort coming on as it did frequently at night, and in some measure at almost every meal.

The plugging was repeated at intervals by the house-surgeon until August the 30th, where on making an examination with the probe, passing it deeply down towards the angle of the jaw, it came in contact with what appeared to be some dead bone. Taking a sharper probe, and feeling carefully to discover the nature of this supposed sequestrum, I was surprised to experience

that peculiar subtle indication, so characteristic but so difficult to describe, given by a probe when in contact with tooth enamel. Mr. Matheson, Mr. Colyer, Mr. Rouw, and others who were present, made careful examinations, but only occasionally and for a moment could we hit upon this little island of enamel, whose presence threw so much light upon the case, but we mutually agreed that there was a tooth present and deeply buried in the dense portion of the jaw.

Our patient being an exceptionally sensible and courageous man, we determined to make an attempt to remove the tooth.

Passing a pair of long stump forceps with the joint far removed from the blades into the cavity, first using the closed blades as a probe and eventually opening them, I grasped what seemed to be the tooth, and using an almost alarming amount of force, and after considerable manipulating, I was gratified by bringing away a large clump shaped wisdom tooth, which had evidently lain horizontally in the jaw and deeply impacted in the thickest part. The tooth was completely surrounded with a thickened membrane which enveloped it like a loose cloak. The cavity was once more plugged with lint, and the patient directed to return in a few days, when the cavity was syringed and cleansed by the house surgeon. This treatment was repeated at intervals. The patient suffered no inconvenience except immediately after the operation, when he suffered intense pain for a short time.

I last saw the patient on September the 27th. He was suffering no pain, the cavity was rapidly healing, the cheek was less œdematous. No hæmorrhage had occurred, and there was no sign of the return of any morbid growth. The region of numbness over the mental foramen remained unaltered.

Mr. H. Williams, who made a microscopic examination of the tumour, could discover no special structure in it. In external appearance it closely resembled the ordinary fibrous epulis, but on section it proved to be of a much more friable and flimsy consistence.

After removal the root of the original tumour appeared to sprout rapidly again, but this appearance, I believe, was not due to a growth from the original peduncle, but was really a distinct tumour which had existed for some time and came into view after the removal of the first one. Indeed, on the thickened membrane which surrounded the tooth one could with fair certainty trace the two cut peduncles, and also see what appeared to be the germs of other

tumours. Another point worthy of note was the difficulty of diagnosing this tooth from necrosed bone. After the removal of the tooth it was found that the portion which lay uppermost was covered with a globular deposit of salivary calculus, leaving only a small area of enamel exposed. Hence the difficulty of discriminating between it and dead bone. The final operation was performed on the patient's 70th birthday, and I think this case is a good example of the mischief which may arise from an impacted tooth, even although it may have remained quiescent for many years. It also goes some way to prove that these epuloid growths are nearly always due to the presence of teeth or roots from the adjacent parts of which they spring. Further, it will be interesting to notice how far sensibility will return to the inferior dental nerve, paralysis of which was doubtless due to pressure resulting from inflammatory action and expansion of the cystic walls which surrounded the impacted tooth.

REVIEWS AND NOTICES OF BOOKS.

THE TEETH AND ASSOCIATE PARTS, by JOHN WOOD, L.D.S.Edin., L.D.S.I., &c. Published by John Menzies & Co., Hanover Street, Edinburgh. Pp. 88.

MR. WOOD's little book is obviously intended for the general public and not for the dental profession. We are not prepared to affirm or to deny that brief handbooks dealing with professional subjects and addressed to laymen are of any great use. There can be no doubt that the lay world stands greatly in need of instruction of a simple kind upon the salient principles of dentistry as of other branches of the healing art. The widespread and lamentable ignorance of medical subjects that is apparent to every practitioner is a fruitful cause of mischief of all sorts. It would be a good thing if the public could be educated a little in all matters bearing upon public hygiene; such education would deal a death blow to quackery, for without ignorance quackery would be deprived of its victims, and a widespread inculcation of the rudiments of surgery would, no doubt, preserve many organs, teeth, eyes, ears, &c., from unnecessary destruction. But it is still an open question how this knowledge may best be imparted, and in what form, whether it would not be better disseminated under the imprimatur of a recognised society and with the general sanction of the profession at large.

Having read the little book before us, we cannot refrain from asking what good end can be served by a treatise covering the wide field of Dental Anatomy, Physiology, Pathology, and Surgery, in the brief space of 88 pages. The mouth is dealt with in six pages (which includes the anatomy of the jaws); the anatomy of the teeth does not cover two pages; the classification of the teeth and their arrangement occupy three pages; stopping teeth takes six pages, and toothache five. Now it is obvious that a *bonâ fide* student of these subjects could scarcely expect to gather much information from such a *multum in parvo*, and we very much doubt if the general public would carry away a very clear idea of the matter from its perusal.

Still, we feel ourselves safe in saying that no one could learn anything misleading from the perusal of Dr. Wood's book, and so far as it goes, it is to be trusted; the 88 pages contain a great deal of elementary information which cannot possibly do any harm and which might do some good. The chapters on eruption and irregularity are certainly the best, and that on extraction is, so far as it goes, good.

The book is not without blemishes from a literary point of view; thus, such expressions as "the muscles which control their every motion" are evidently hasty; of course, muscles can scarcely be regarded as simply *controlling* motion; again, on page 7, we read that "soluble substances are dissolved" by the saliva, and "masticated food coated, and so more easily swallowed, and these chemical effects," &c. Moreover, the sudden and unexplained introduction of smaller type are a little bewildering. The book is thoroughly well illustrated throughout, and this is a very strong recommendation in a book ostensibly addressed to the unlearned; a page of good illustrations will often convey more than many pages of letter-press, and in this most important item in a popular work, Dr. Wood ought to be highly congratulated on his success. Little more can be said of the book; it is clearly written and easily understood; its facts are pretty sound and reliable throughout; it is well printed, capitally illustrated, and of its kind good. We still reserve our opinion upon the value of books of this sort written in such a form that only those who are in need of the most elementary facts can profit by them; but, supposing that it is granted that such books are needed, we do not see how the varied field could be covered in 88 pages to better purpose than in Dr. Wood's handbook.

MINOR NOTICES AND CRITICAL ABSTRACTS.

Iodol.

HAVE any of our readers commenced to use the new drug iodol? This is a most valuable preparation, almost identical in its therapeutical effects and very similar in chemical composition with iodoform, but having the great advantage of being devoid of taste and odour. Most of us in late years have found iodoform indispensable in practice; but we must have all regretted the torment which its persistent disagreeable smell has inflicted upon susceptible patients. Full accounts of the nature and uses of iodol have appeared in the medical papers. Iodol was discovered by Drs. Silber and Ciamician, of Rome, where Dr. Mazzoni first introduced it into surgical practice. It is a light fawn-coloured micro-crystalline powder, containing 88.97 per cent. of iodine, and is decomposed at a temperature of 100° with liberation of free iodine. Mr. G. Foy, F.R.C.S., surgeon to the Whitworth Hospital, Dublin, has extensively employed iodol in all cases in which surgeons generally use iodoform and with uniformly good results. He gives a full account of his observations in a paper in the *Medical Press* of August 4th, to which we are indebted for much information.

Iodol is not poisonous, and taken internally is eliminated in the form of iodine. Dr. A. Wolff conducted a number of experiments on rabbits with an oil solution (10 per cent.), and found it produced no irritation. Dr. Galtano Mazzoni in conjunction with Dr. Rocchi, examined its therapeutic influence on some patients in the St. Giacomo Hospital, Rome. Two hundred observations were made. The iodol was employed in substance, or suspended in glycerine, or it was used as an ointment made up with vaseline, in addition, alcoholic solutions of iodol diluted with glycerine were also employed.

In venereal affections (chancres, adenitis, and periadenitis) it was used with the best results. The venereal sore having been washed with water, and carefully dried, was sprinkled over with iodol powder, and covered with silk protective; if the chancre was large and very purulent, Brun's wool was also employed; this dressing was repeated every twenty-four hours. After the dressing had been renewed from four to six times, the base of the chancre commenced to granulate, and the edges showed a tendency to

cicatrise; no fresh ulcerations, nor any adenitis in the inguinal region ever appeared, and even commencing inflammation of the lymphatic glands (in two cases) subsided without any special treatment.

In patients with wounds which had large openings, with thinned, undermined, and blue edges, the free incisions which are recommended in such cases should be avoided, and the surface of the sore simply sprinkled with iodo powder. In twenty-four hours a change was noticeable in the character and quantity of the secretion. The ulcer was cleansed with Brun's wool, and after the dressing had been renewed three or four times, it commenced to granulate, and showed a tendency to rapid cicatrisation.

In ulcers where there is very marked necrobiosis, the good effect of iodo is very remarkable—the foul smell disappears, the secretion diminishes, and the ulcer changes in a short time to a healthy granulating wound. In atonic ulcers also the result was likewise favourable: even after two applications a distinct improvement was to be observed. On the other hand, iodo was quite ineffectual in sloughing ulcers where there were marked sloughs; in these cases its use was discontinued, since not only did no improvement ensue, but the disease extended. The cause of this is, that the iodo in such cases is washed away by the fluids which are secreted in such quantity, and that in employing alcoholic solutions the iodo is precipitated and then carried away.

Drs. Mazzoni and Rocchi, of Rome, have been making a series of experiments on the use of iodo in surgery, taking a group of patients in the St. Giacomo Hospital in that city.

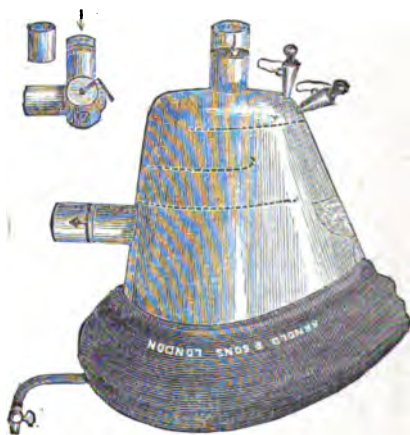
In one patient who was afflicted with lupus of the upper lip, some lupus tubercles were extirpated, and the small holes filled with iodo powder. In eight days healing had ensued under the scabs.

The writer of this notice in conjunction with his colleague in practice, has employed iodo instead of iodoform during the last three months, in all dental cases in which the latter was previously used, and the experience has verified the statements of the authors cited.

General Anæsthetic Inhaler.

By F. FAWSON LEE, M.B.Lond., F.R.C.S. (Exam.)

FEELING somewhat dissatisfied with all the anæsthetic inhalers at present in use, Messrs. Arnold and Sons, West Smithfield, E.C., have most ably made for me a "General Anæsthetic Inhaler" according to my instructions, as depicted in the accompanying woodcut. This may be termed a good "all round" inhaler, as it can be used for nitrous oxide gas, chloroform, ether, alcohol, or methylene bichloride, given either separately, mixed, or successively, as may be desired. For instance, you can begin with NO and continue with ether; or administer chloroform, and, in the event of signs of syncope, add a fluid drachm of ether, or alternate one with either of the others as may be thought proper. Besides the above it possesses the following advantages:—1. A free influx of air as well as a free outlet. 2. A good indiarubber cushion



attached to the base, so as to fit any kind of face. 3. The use of plates or diaphragms (represented by dotted lines) turned up on the free edge so as to prevent the anæsthetic fluid from dropping down on the patient's face, of which the lower one serves to prevent the reinsufflation of expired air and directs it to the outlet, whilst the upper and middle ones are so placed as to receive the inhalant in any position of the patient and diffuse it over as broad a surface as possible for volatilisation, which is also accelerated by the warmth of the hand of the administrator. 4. Either of the funnels can be used according to position.—*Lancet*.

OBITUARY NOTICES.

Mr. Thomas Mahonie, of Sheffield.

It is our painful duty to record the sudden and accidental death of a much esteemed member of our Association, Mr. Thomas Mahonie, of Sheffield. On Friday afternoon, October 1st, while being driven in his carriage through the streets of Sheffield, the horse took fright and ran away, when, to escape a collision which seemed inevitable, Mr. Mahonie leaped from the phaeton and fell heavily to the ground, sustaining a severe fracture of the base of the skull, which resulted fatally in three hours afterwards. The sad event cast a mournful shadow over the whole district for Mr. Mahonie was very widely known, not only as a successful practitioner, but as a generous supporter of philanthropic and educational institutions throughout Yorkshire and the neighbouring counties. He possessed, moreover, a very bright and genial disposition, and was always ready to employ his professional and other talents for the benefit of others, and especially in behalf of the poor. Mr. Mahonie was present at the meeting held at Willis's Rooms, in March, 1879, when the British Dental Association was called into existence, and has attended every annual meeting of the Association including the last. He was also a member of the Representative Board, and though residing at so great a distance was frequently present at its meetings. He was elected to the Council of the Midland Branch at its inauguration, and his lamented death creates a gap, which it will be difficult to fill. He had a generous regard for the true interests of the whole profession, and faithfully discharged the duties of every office which he undertook. He will be missed, as all good men are missed, by his family and friends, and our Association has to mourn the loss of a staunch and consistent supporter.

Mr. Joseph Sampson Gamgee.

SINCE our last issue the world of medicine has lost a distinguished votary in Mr. Joseph Sampson Gamgee, of Birmingham. Mr. Gamgee's death resulted from an apparently trifling accident, a fracture of the femur, resulting from a slip while walking. The immediate cause of death was uncontrollable hæmorrhage. Mr. Gamgee thought little of the injury at first, and did not even

believe there was any fracture. Mr. Gamgee was a distinguished ornament of medical literature, an eloquent and instructive teacher, and an energetic supporter of all good causes in the profession. In the autumn of last year he bore a prominent place in fighting the battle of the members of the College of Surgeons, and endeavouring to procure for them direct representation on the Council. Among Mr. Gamgee's fellow students were Sir Joseph Lister, Sir Henry Thompson, and Mr. Christopher Heath.

ANNOTATIONS.

IN the issue of the *Lancet* for October 9th, 1886, on page 693, there is an annotation which all members of our Association will hail with unmixed feelings of gratification and gratitude. The *Lancet* expresses fairly and clearly a definite opinion upon a delicate question, which we only hope will be carefully read and thoroughly laid to heart by every practitioner of medicine in the kingdom. The annotation we shall quote in full for the benefit of our readers :—

RELATION OF MEDICAL MEN TO DENTAL QUACKERY.—We have had a matter of professional etiquette referred to us lately. A medical man writes saying that he was called in upon two occasions to administer chloroform to patients by a man who practises dentistry, but who, he has since been informed, is not registered, and our correspondent wishes to know what course he should pursue in future. There can be only one possible answer. He should absolutely refuse to attend. To associate in any way with one who is liable to prosecution, should he ever call himself a dentist and yet practises, must bring discredit not only upon himself but upon the medical profession generally. We will go further and say that no medical man should allow his name to be connected in any way with dental quackery or advertisement. Dental specialists have for years worked hard, and with success, to raise their professional and social status, and they look to their parent—the medical profession—to help them by not encouraging irregular dental practitioners.

It is, indeed, true that qualified and registered dental specialists have for years been fighting hard—and a very up-hill battle it has been—to raise their professional and social status. It is also very true that they look to their great parent, the medical profession, to help them, and the help has been given in a staunch and generous

manner ; but it is also true that there are a large number of medical men who still condescend to encourage, to aid and abet, irregular practitioners who disgrace and degrade the dental branch of medicine by their manner of pursuing their calling. It is a crying shame that medical men should be found who are willing to administer anæsthetics for tooth drawers who are not on the Register. If only the *Lancet* with its world-wide influence consents to fight this portion of the battle for us, we venture to say that it will speedily become impossible for this scandal to continue to exist. A few more authoritative expressions of opinion in their columns would suffice to frighten the unprincipled members of the medical profession who still stoop to obtain practice in this unworthy manner. Only the other day a death from chloroform took place in a quack dentist's operating room ; the administrator was a qualified medical man, and his action in consenting to administer the anæsthetic was, we consider, highly reprehensible. We sincerely hope that the *Lancet* has not said its last say upon this subject.

BEFORE leaving this topic we cannot refrain from asking our influential contemporary for an equally firm expression of opinion upon another kindred subject. There are a large number of advertising quack dentists who append to their circulars lists of the names of the medical men whom they infer to be in some sort of co-operation with them. Now is this fair or right ? Do not those who permit such an use of their names deserve the sternest reprobation ? They share the profits of advertisement as directly as is possible ; there is no disguise about the matter, no attempt at disguise. We shall be delighted to give our contemporary the full facts of one such case, which are in our possession, and a very flagrant case it is. Men who possess M.D., M.R.C.S., L.R.C.P., and other similar qualifications, allow their names to be appended to the circulars of a discreditable enterprise, a misleading and bogus charity, a scheme which subsists upon what is nothing more nor less than robbery. Surely such men should be called to account ; they lend their names to a conspiracy to rob the public, and they are participators in the proceeds of a quack advertisement. If only the *Lancet* will assist us in exposing and denouncing this scandal to our common profession, we believe they will be doing a good work and one worthy of the position they hold in medical literature.

WE are pleased to notice that the *Globe* (September 25th, 1886), has given a resumé of Mr. Fisher's excellent paper on the "Attention to the Teeth of School Children" (we hope to publish the paper in extenso next month). Mr. Fisher is very fortunate in having succeeded in attracting so much public attention to his work. It is certainly a subject which lies distinctly in the domain of the public press to ventilate; we and all our readers are probably of one mind about the matter, but the public require to be educated, and one good article in the *Globe* will do more to further Mr. Fisher's ends than fifty in a special journal. Mr. Fisher's scheme is young, and it is greatly to his credit that it has already attracted so much public notice, if only his contention can be fairly brought home to the minds of the British ratepayers his battle will be half won. In this direction also the *Lancet* has done us a good and timely service.

UNDER the heading of a melancholy occurrence in Dundee, *The Dundee Advertiser* for September 28th, recounts another death from chloroform. A young lady patient consulted a dentist relative to the extraction of several teeth; she was of a nervous temperament and required an anæsthetic. A medical man administered chloroform, but before the operation could be commenced alarming symptoms set in, which, in spite of all the efforts of the dentist and the two doctors (for another had been summoned), terminated fatally. We wonder when the practice of administering chloroform for the extraction of teeth will be discontinued? Surely, in the face of this never-ceasing series of accidents it should at least be obligatory upon those who insist in the face of all professional opinion in wantonly exposing their patients to such unnecessary risks, to publish their names, addresses, and qualifications, so that the world at large might know who they are and act accordingly.

OUR readers will notice in our correspondence column a letter in which we are remonstrated with for some observations in our September number, concerning the dental diploma of the Royal College of Surgeons. The writer has apparently read the passage in the Journal very hastily, for we cannot see that his letter has any reference to what we said. Our remarks were a comment upon the following expression used by Mr. Turner in proposing the College of Surgeons at the dinner:—"There are a large number

of dental students who fulfil their curriculum in London, and for some reason or another do not come up to the College of Surgeons for their diploma." This we considered, and still consider, a matter for regret. If our correspondent thinks we disapprove of subsequent travel in search of an extension of knowledge, and supplementary study abroad to obtain all the special advantages of various schools, we can assure him we should as soon think of censuring an autumn holiday abroad. It is nevertheless a fact that students do complete their education in England and then seek their diplomas elsewhere. If there is any inference to be drawn from this, we leave our readers to draw it for themselves.

POST GRADUATE CLASSES AT EDINBURGH.—The Post Graduate Classes in Medicine and Surgery, which were begun on the 27th September, and will conclude to-day, 15th October, have been so successful as to command their continuation and extension in the years to come. That section of them with which we are more directly concerned, has been conducted in the Edinburgh Dental Hospital by Messrs. Wilson, Watson, and Macleod, and the demonstrations given by these gentlemen have been warmly appreciated by large numbers of colonial and other practitioners. Mr. Watson demonstrated the value and uses of cocaine and nitrous oxide in dental surgery, and further exhibited a series of microscopic sections illustrating the various dental diseases. Mr. Wilson demonstrated the application of nitrous oxide and the method of using the Hawksbill forceps. Mr. Macleod showed a method of improvising an operating chair on "the field," or on board ship, or in private houses, suitable for operations in the mouth or in the regions of the face and neck; he also demonstrated his method of taking plaster impressions in cases of cleft palate, and exhibited a patient wearing an obturator and velum for perforation of the hard and soft palate; he also gave a clinic on the use of the straight elevator. Next year it is expected that a more extended series of clinics will be given, of which due notice will be given through the Journal, so that a still greater number of our professional brethren may participate in the benefits to be derived from post graduate teaching.

WE learn that the authorities of Sandhurst College have ordered a new set of forceps to replace the old one. We are also assured that the old set, which has very properly been superseded, was so

antiquated in form and style, that it would not be uninteresting in a museum of dental curiosities. From the same source we are informed that the staff surgeon of one of Her Majesty's ships has been inquiring concerning instruments for the "sailor boys" (he explained that he was obliged to provide his own instruments). Applications are pouring in to the depôts for instruments, chairs, &c., from various hospitals and infirmaries. Two unions have appointed dental surgeons, and the third has the matter under consideration. All these things are signs of the times, and will, we have no doubt be food for gratifying reflection to Messrs. Fisher and Cunningham, and all those who have felt the urgency of the claims they have so ably urged for the extension of dental supervision in all directions. Seldom in the history of reforms has the tree commenced to bear fruit so soon after it has been planted.

We publish in our correspondence column a reply from Dr. Galippe to certain strictures passed upon his work by a correspondent in our July number. Dr. Galippe can well afford to smile at the suggestion that he is unaware of the structural peculiarities of the dental tissues, or that his views regarding enamel are the reiteration of an ancient error. We do not think there are many anatomists who are better able to discuss the histology of the dental tissues than our friend Dr. Galippe. It is, in fact, our correspondent who is a little out of date in his assertion that enamel is out of the pale of vitality. Ages ago John Tomes foreshadowed the then undiscovered fact that enamel must share the vital influences that affect the other tissues; recently Heitzman and Bödecker have placed the matter beyond a doubt, and enamel is now as universally acknowledged to be a living tissue as dentine or cementum. As Dr. Galippe says, much remains to be done in this direction, and it is by no means proved as yet that a direct communication exists between the ultimate ramification of the dentinal fibrils and the mysterious substance which separates the enamel prisms from one another, but that the enamel prisms are not absolutely contiguous, and that the chemical composition of that tissue does vary, are facts which no one now doubts, and Dr. Galippe is quite warranted by amply demonstrated facts in his conclusion concerning the morbid anatomy of those tissues. We can recommend his letter to the perusal of our

readers as breathing a proper spirit of true science and as reflecting the careful and accurate scientific habit of its author.

At the recent meeting of the British Medical Association, in the section of Psychology, Dr. Beevor (London), drew attention to a method of staining nervous tissue with Hæmatoxylin, and as all methods of staining nerve tissue must be of interest to us while we are still so much in the dark about the nerve-endings of the pulp, we will quote for the benefit of our scientific readers the method advocated by Dr. Beevor. The central nervous tissue was hardened in bichromate of potash, followed by alcohol, then embedded in collodion, and sections cut; the sections immersed in acetate of copper solution, half-saturated for twenty-four hours, then in alcohol for a few minutes; after this into solution of hæmatoxylin for twenty-four hours, and washed in water for a few minutes, and immersed in a solution of ferrocyanide of potash till all colour was washed out, except from the medullated fibres. Sections of the brain of the marmoset monkey and kangaroo were shown, and also sections of the cord of *tabes dorsalis*.

We understand that Dr. J. Cowan Woodburn, of Glasgow, has succeeded in adjusting an artificial larynx (with a phonatory arrangement attached) in a case of complete excision for sarcoma. The patient had been under the care of Dr. Newman, who had removed all the parts above the upper border of the sternum, as far as, and including, the epiglottis. The apparatus, according to the brief account which has been forwarded to us, has restored the function of vocalisation which had been entirely lost, and the patient is able to sustain a conversation and now pursues his avocations which require the use of this function. The restoration is so complete that the provincial manner of speaking is also restored. Dr. Woodburn promises us a description with diagrams of the apparatus at an early date.

THE brain of the great French orator, Gambetta, has been subjected to a careful examination by M. Duval (the director of the Anthropological laboratory at Paris), and an interesting peculiarity has been noticed, namely, that Broca's convolution is abnormally developed, so much so that its normal V shape has been converted into a W shape. This observation is of great interest, because

Broca attributed to this convolution the function of articulate language, and that it should be excessively developed in the brain of so powerful a rhetorician is valuable as testimony in confirmation of his views. M. Gambetta's great characteristic was his extraordinary fluency and mastery of language.

MONTHLY statements of operations performed during the month of September, 1886, at the :—

			Dental Hospital of London.		Birmingham Dental Hospital.		Manchester Dental Hospital.
Number of patients attended	...		2370	...	1072	...	883
Extractions :							
Children under 14	...	...	410	...	—	...	821
Adults	...	...	1202	...	986	...	55
Under Nitrous Oxide	...	...	620	...	—	...	20
Under Cocaine	...	...	—	...	—	...	25
Gold Stoppings	...	...	175	...	1	...	60
Other Stoppings	...	...	599	...	73	...	—
Advice and Scaling	...	...	184	...	83	...	—
Irregularities of the Teeth	...	...	46	...	—	...	—
Miscellaneous	...	...	356	...	76	...	223
Anæsthetics	...	...	—	...	19	...	—
Total	...	...	3592	...	2310	...	1204

A FOREIGN contemporary contains an amusing account of an operation performed in a balloon :—

At a popular festival recently held at Sedan, a balloon was about to rise when at the last moment the aëronaut announced that the ascent would have to be postponed, as he was suffering from a dreadful toothache, which drove him almost to distraction. At this statement, a gentleman pushed through the crowd, saying, 'I am a dentist, and have got my case of instruments in my pocket? let me go with you, and if the pain does not cease I will undertake to extract the tooth.' Two hours later the balloon returned to earth, and the aëronaut related with radiant countenance that the dentist had drawn his tooth with great skill at an altitude of 6,000 feet.

The performance must have been very effective, and the appearance of the operator must have seemed almost superhumanly opportune to the distressed aëronaut. It seems to the disinterested reader as though the dentist had been patiently lurking about on

the look out for business, and possibly may have been somewhat disappointed that his name and address did not appear in the report.

THE first meeting of the Odonto-Chirurgical Society of Scotland, for the session 1886-7, is announced to take place on Thursday evening, November 11th, at 30, Chambers Street, Edinburgh, when a paper will be read by J. Symington, M.D., F.R.S.E., on the position and relations of the teeth in children, illustrated by frozen sections.

OUR readers will be interested to hear that at a meeting of the American Surgical Association held in Washington on April 30th, 1886, Sir William Mac Cormac was elected an Honorary Fellow of the Society.

THE Shop Hours Regulation Bill, which is under the charge of Sir John Lubbock, will render chemists liable to a fine of £5, for keeping open shop after 10 o'clock at night on Saturdays, and on the day preceding a public or bank holiday, and after 8 o'clock on other days.

THE *British Medical Journal* of July 31st, 1886, gives an account of the death of Madame Goruli at St. Petersburg, at the great age of 114, having been a contemporary of Catherine II., and a lady of the Court of Paul I. Her sister, who attended the funeral, following the bier on foot, is said to be 113 years of age.

WE learn that the French Society for the Prevention of the abuse of Tobacco has offered a prize of 1,000 francs for the best essay on "The effects of Tobacco on the Health of Men of Letters and its Influence on the future of French Literature."

THE Senate of the University of London has under consideration a proposal for the celebration of the Jubilee of the Hospital, an event which it is felt should not pass unnoticed. It will, most likely, be celebrated in May or June of next year.

CORRESPONDENCE.

We do not hold ourselves responsible for the views expressed by our Correspondents.

Quackery.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I read your leader on "Quackery" in the July issue of the Journal with much pleasure, but you must not forget that there exist abuses of the nature of Quackery within the charmed circle of those who *profess* to respect professional etiquette.

The subject is a delicate one to handle, but I do not see how an Association like ours can well blink at evils that many of us know to exist. You condemn the unblushing advertiser, and justly, and yet I have a kind of indefinable respect for the man. *He is what he appears to be.* He says in effect: "Here I am, confessedly before the world, an *Advertising Dentist*. I know that I am, and I want the world to know it too. I don't want to be whitewashed by the British Dental Association, for my *trade* would suffer if I treated it as a *profession*, and my object is to *make money*, honestly if I can, but anyhow to *make money*."

The other kind of quack seems to me to be infinitely more contemptible. He keeps, so to speak, within the letter of the law; he does not indulge in a flaring brass plate, but is content with the modest statement of his name upon his door plate; yet, notwithstanding the apparent claims to respectability, he does not scruple to enter into an arrangement on a basis of mutual profit, an arrangement involving commissions, percentages, and gifts of a notable kind at Christmas.

No sensible man would venture to call in question the slight, graceful, or even grateful acknowledgments of kindnesses received by one friend from another, but what I complain of is anything in the nature of a previous arrangement, or the interchange of gifts of such obvious value as to constitute a bribe, to defray the expenses of which *the patient must be fleeced*. The evil exists and it must be faced, and I am led to hope that your Journal will be found bold enough to speak out upon the matter.

FIAT LUX.

Foreign Diplomas.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Kindly allow me a word of protest against the discouraging remarks passed in the last number of your Journal upon those students who have sought to extend their knowledge by undergoing a course of study in the American schools.

I cannot see that it is any disparagement to the College of Surgeons that a student having completed his dental curriculum should desire to study in foreign schools which have carried the practice of special methods to a high point of perfection ; in doing so he simply follows the example of those medical students who go abroad to study in the celebrated schools of the Continent, and of those students who come from America and other parts of the world to study in British Medical Schools. When once a student has acquired the education necessary for the practise of his profession, it is well that he should follow his individual inclinations in the life-work he is about to enter upon.

Those who have a taste for investigation and research will, no doubt, do well to strive for the membership, the fellowship, and the highest honours that British Universities can confer ; whilst those whose tastes are of a more practical turn and who are desirous of becoming complete masters of the various processes and methods carried on in behalf of our art, will do well to travel and study in any foreign school that has made itself remarkable by carrying forward any special method to its ultimate conclusion.

The fact of English students studying in American schools is likely to be beneficial in two ways. The excellent training they have undergone will demonstrate the strides that dentistry in this country has been making, and extend the reputation of British schools and their method of teaching, while the students themselves will come back with the extended views which come from rubbing against those who think differently from us, and a knowledge of the relative merits of methods and things which can only be acquired by personal investigation.

I am, Sir, faithfully yours,

CHARLES M. CUNNINGHAM.

Cambridge, September, 1886.

Dr. C. V. Galippe on the Physical and Chemical Characters of the Teeth.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

MY DEAR SIR,—I might have allowed the anonymous letter which appeared in the July number of your valuable Journal to pass unanswered, not only because it was anonymous, but also because there is no obligation to produce the theory of a scientifically demonstrated fact ; facts are above theories.

I address this letter to you solely to show my recognition of the liberal hospitality that my writings have received in the pages of your Journal, and to express my strong personal regard for you and your work.

The tissue we call enamel is a cellular product which does not, I am

aware, exhibit an equal degree of vitality with the other tissues, still it is not permissible to assert that it is absolutely wanting in vitality, seeing that it is the seat of phenomena which would be in such a case wholly inexplicable. If the constitution of enamel did not vary, its power of resistance would be always the same at all the epochs of life, and we should find that it became more vulnerable and more fragile at certain times than at others.

Adopting a method of argument which I cannot allow, your correspondent gratuitously assumes that I am not acquainted with the structural differences between bone and the hard tissues of the tooth, and engages in the easy task of encountering and correcting some imaginary errors.

I am, however, already in possession of the knowledge your correspondent wishes to impart to me. Further, I am aware that the presence of blood vessels is not necessary to the vitality of tissues; the cornea, cartilage, the axis cylinder of nerves, and lastly, dentine, being examples. I am also aware (I have acquired the information from such authorities as Kölliker, Tomes, and Ranvier) that the canaliculi of dentine send prolongations into the deeper layers of enamel, and that these prolongations appear surrounded by a thin layer of dentine.

Now I cannot admit that a tissue which receives cellular prolongations and which is in many points in direct contact with communicating branchlets of the fibrils themselves, can be regarded as outside the pale of vitality. Physiologically it would seem that it is impossible for tissues that are not living to find a place in the economy, as soon as they cease to participate in the general nutrition, sooner or later, they disappear.

Again, everyone knows that the substance which binds together the enamel prisms is more or less tinted. Now this pigment which gives to the tooth its colour appears after the formation of the prisms.

Finally, while we must admit that whether from a histological or from a chemical point of view the tooth is not an isolated unit, nevertheless, it is impossible to deny that physiologically the tooth does constitute an individuality of which all the integral parts are mutually inter-dependant.

I am of opinion that much remains to be done in investigating the tooth in general, and enamel in particular; and if your correspondent will kindly teach me something new, I shall not be wanting in gratitude to him. In the meanwhile I adhere to the opinions to which I have already given expression.

Yours very truly,

C. V. GALIPPE

Replantation.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Herewith I enclose letters from a patient for whom I replanted a tooth last March. I have not concluded that the case is all right from the mere fact of not having seen the patient, but have preferred to have the patient's own statement. The case is as follows :

Miss F., a young lady about 20 years of age, consulted me about a swelling in the left cheek. On examination of the mouth I found the first upper left bicuspid decayed, the crown gone, and considerable swelling and tenderness about the root. Extraction was clearly indicated, but there was a difficulty in the way as the crowns of the cuspid and second bicuspid had approached each other so much as to render the extraction of the root impossible without first removing one of these teeth, which were both perfectly sound. However, I thought of replantation, so I intimated this to the patient and she approved. Gas was administered, the sound bicuspid removed and dropped into a glass of tepid carbolised water where it remained without any further preparation, to be replaced into its former and natural position ; the diseased root was then removed and the patient allowed to regain consciousness. After the bleeding had somewhat ceased the clot was removed from the socket of the sound tooth and its former occupant replaced. The patient, who lives away in the country, then left with instructions to use hot fomentations freely and not to irritate the tooth in mastication more than she could possibly help ; also to let me know the condition of her tooth in a few days. This she did, at which time the tooth was very tender as one might expect, only a few days after the operation.

Now it may not strike one at first that there is anything very wonderful about this case, but when you come to think that the replanted tooth was in such close proximity to extensive inflammation and threatened abscess, I think the chances of success were rather remote. I am sorry I have not had an opportunity of examining the tooth since the operation, as it would be interesting to know if the pulp is still alive. If at any time I should meet the patient again I shall take the liberty of again troubling you. At present I think the patient's own letters are sufficiently conclusive.

Yours, &c.,

A. HOWARTH.

59, *Manningham Lane, Bradford.*

September 8th, 1886.

The letter enclosed by Mr. Howarth and dated September 6th, 1886, contained the following statement :—" In answer to your note, the tooth you replaced last March has gone on very nicely ; it is now both comfortable and useful."

The Conjoint Diploma.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—I am in the habit of taking a lively interest in the doings of the British Dental Association and read our valuable Journal thoroughly. I notice, Mr. Scott Thompson in responding to the toast of the "Press," proposed by Mr. Felix Weiss, said he looked forward to the time when every dental practitioner would be a medical practitioner also. Then the Dean of the Dental Hospital, Mr. Morton Smale, at page 586, speaking on "Dental Education," says, the subject is fraught with much interest and of vital importance, and further details the requirements of the College of Surgeons of England, so that a student might from the new departure obtain the distinction of the Dental tyro, namely, the M.R.C.S., L.R.C.P., and L.D.S.

Now, does it not occur that those already on the Dental Register and possessing a qualification are young men, and are quite able to undergo further sacrifice of time and money, if the way could be seen clearly to do so? My object in writing, therefore, is to get an expression of opinion from those who know through the columns of our valuable Journal what would probably be the extra course of study to those already in practice, &c., &c.; if it could be clearly set forth, there is no doubt many would consider it a great advantage to know, especially those who have completed the dental curriculum.

I am, Sir, yours, &c.,

H. A. LAURENCE, L.D.S.I.

Corundum Wheels.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Can any of your numerous correspondents inform me if there is any means by which corundum wheels and discs can be partially restored to their original grit?

Yours truly,

DENS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Bedford Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

Members are reminded that their Subscriptions for the current year are now due and should be remitted to the Treasurer, at 40, Leicester Square.

According to the Bye-laws of the Association, Members who are one year in arrears are not entitled to receive the Journal.

All Correspondence for the Editor, Books for Review, and Exchange Journals should be addressed to 11, Bedford Square, London, W.C.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 11.

NOVEMBER 15, 1886.

VOL. VII.

Photo-Micrography.

EVERY fact in histological research faithfully observed without any preconceived bias, and accurately recorded, is one more stone added to that temple of Truth, which it should be the aim of all investigators to raise. There are various methods of recording these observations, but difficulties surround them all. That which has hitherto found most favour, and still finds many supporters, is furnished by the *camera lucida*, and justly so, because the facile pencil of a good draughtsman can depict the details of his subject in its varying planes, by altering the adjustment of his microscope; but this facility does not come easily to everyone alike, and especially to a novice, who finds it difficult to see the details of his preparation and his pencil point at the same time, a difficulty which can only be lessened by a modification of his lights. Hence various forms of this

method of drawing histological work have been devised with the intention of obviating this difficulty. Thus we have the neutral tint reflector of Dr. L. S. Beale, the camera lucida prism of Dr. Wollaston, another by Amici, and the most recent improvement intended to be used with the microscope in a vertical position, invented by Nachet. All these methods point to difficulties which these various forms were designed to overcome; but there is one difficulty which will always present itself, in spite of the most improved apparatus, and that is, the inability to delineate in all its fulness and delicacy, that minute detail so frequently characteristic of histological work. Take, for instance, such a subject as a section of the fang of an exostosed tooth, with all its varied and minute elements, and although it would be quite possible for a clever draughtsman to reproduce its characters faithfully, yet there would be a crudity about the drawing very different from the veritable appearance characterising a good Photo-micrograph, where we should get the details in all their truth, at the expenditure of far less time and labour than would be required in such a drawing carefully and laboriously executed by the camera lucida. To meet this difficulty Photo-micrography comes to our aid, and serves its purpose so well that probably in the future it may be enlisted more and more in the service of the investigator as its few drawbacks are vanquished. It is necessary to bear in mind what these drawbacks are, that means may be found of surmounting them. One which seemed a few years ago likely to present serious difficulty, has been removed; it was the supposed want of co-incidence between the visual and chemical foci of the microscopical objectives employed; but this has since been found an erroneous supposition. Our present objectives being sufficiently well corrected to oppose no difficulty upon this score, seeing that if there is

a sharp image on the focusing screen, a well-defined image on the sensitive plate will be the result.

Another difficulty suggested as militating against the employment of Photo-micrography in the place of the camera lucida, is that occasioned by the super-imposed planes presented in the sections; and with ordinary sections or subjects bearing any thickness, this objection was well founded, as photographs from such subjects would have all the detail of the front plane blurred out by those behind it; but sections can now be made of the utmost tenuity whether they be of the hard or of the soft tissues, and in this way the difficulty—if not entirely removed—is reduced to its minimum; indeed, in sections of this kind we are likely to create another difficulty, for their thinness causes the actinic influence of the subject to be so much on an equality with that of the glass of the microscopical slide on which it is mounted, that it becomes necessary to interpose between the light employed and the object to be photographed, a coloured medium to reduce the intensity of the light, or to have the subject stained of a suitable colour to insure a sufficient actinic contrast between it and the surrounding field, but we may consider that the difficulty of the super-imposed planes has been mitigated if not removed. We have a very important factor in our success in this department, in the selection of proper stains of sufficient actinic contrast, to the value of which attention has been called by Dr. G. A. Piersol, in the *American Monthly Microscopical Journal*, No. 7, 1886, in which he points to a fact, supported by our experience, that preparations stained with hæmatoxylin are all that can be desired for simple examination with the microscope, but are so actinically powerful that exposures of the shortest duration fail to give satisfactory photographs, while colours which we should deem of no actinic value, such as Bismarck brown, differentiates

the details of the subjects from the surrounding field with sufficient intensity to impress a good image in the sensitive plate.

It may be in the recollection of many who attended the recent meeting in London of the British Dental Association, that an exhaustive paper on this subject was read by Mr. T. Charters White, and illustrated by an album of photomicrographs, in which the best results shown were obtained from preparations which were stained either red or brown; the most imperfect results, as he pointed out, being those taken from preparations stained of a blue tint—these failures should be like the dead hawk nailed to the door of the poultry yard as a sort of warning not to take that road. The specimens shown on that occasion were evidence that fairly successful results can be attained in the use of photomicrography as a substitute in some cases for the camera lucida, the only two conditions necessary being a thin section and a proper stain—if these are observed, true records of histological research can be preserved, records which to the ordinary eye are readily discriminated, and are, moreover, absolutely reliable in their character.

Teaching by Lectures.

ONCE more autumn has come upon us, and another batch of young men are being initiated into the mysteries of the great profession of medicine in its various branches and departments. At such a time the minds of many of us turn to give a passing thought to the changes that have gradually reformed the process of education since we ourselves were taught. One of the pleasantest of the essays of Elia deals with the curious subject of "the Old and the New Schoolmaster," and we cannot help thinking that had the genial essayist been able to attend a course of medical

lectures in his own day, and then one of modern times, he would have confessed that as great a change had come over the lecturer as the schoolmaster. The days when a lecturer on anatomy devoted so much of his time to anecdotes that in a whole winter course he only contrived to discuss the clavicle, humerus and scapula, are gone by and we can scarcely regret them. Lectures, now-a-days, are devoted to serious instruction, and we think it may be worth while to bestow a short space on the consideration of the very important question of how lectures may be turned to the best account with this end in view.

There is a fairly wide spread impression, not confined entirely to students, that lectures are not really of any use whatever; it is sometimes argued that all the lecturer can tell his class they might find in text-books and read for themselves, that it is impossible to remember a whole lecture without elaborate notes, that unless by means of shorthand it is impossible to take full notes, and that while taking the notes it is impossible to attend to everything that is said by the lecturer, and that an hour's reading would therefore be much more satisfactory work. Lastly, in reference to the lectures at our own special school, it has been urged that it is impossible to cover the ground in the allotted time. Whether any, or all of these objections are valid, depends no doubt, mainly upon the lecturer, but it is certain that none of them need be so.

First of all, it should be borne in mind that it is the function of a lecturer to mediate, if we may use such an expression, between the student and his books, it is sometimes said that a few minutes' conversation will smooth away difficulties that many written letters would have failed to remove, and it is in the capacity of interpreter that the lecturer can do best service, not as a substitute for reading, but as an explanatory supplement. No matter

how carefully a text-book may be compiled, it is unavoidable that it should contain much that is hard to understand, and much that conveys a more or less one-sided view of matters ; the hard and fast lines of classification which are absolutely necessary in such books may with advantage be softened and explained in the theatre. Conflicting views may be analysed and weighed by one who has gone through the actual experiments himself, and the audience, brought thus face to face with the actual work of advancing science, obtain a more vivid or lasting impression of the facts themselves. Enthusiasm is contagious, and if the lecturer loves his subject, his audience must be dull indeed, if some at least, do not catch the fever of experimental research and become actual explorers themselves. The lecturer must be an enthusiast in his subject to attain the highest success, and when he is so he will start many a youthful Columbus on the fascinating paths of discovery. We need hardly add that the youthful audience must do their part of the business ; for Science only smiles on those who woo her, and to the careless and inattentive she loves to seem dull and uninteresting. Such have their reward sooner or later, when they learn the bitter reality of the word failure. To awaken and to foster a living interest in rising generations, and to guide the first uncertain and timid footsteps of an original worker, are ambitions more readily achieved by personal influence than by text-books, and it is in this direction that one of the most important duties of a lecturer may be found. Viewed in such a light it is work of a very high order, work which no books can possibly perform, nor can any other method of instruction be substituted for it, and it may safely be said, without fear of contradiction, that more life-labours in the cause of science have caught their first inspiration from a lecture than from any other source.

ASSOCIATION INTELLIGENCE.

The Annual General Meeting.

(Continued from page 653.)

ON Friday, August the 20th, the afternoon was devoted to dental demonstrations and to a very elaborate exhibition of instruments on the part of the various makers.

It is of the demonstrations that we specially wish to speak at present. Four gentlemen had promised demonstrations but only three put in an appearance, Mr. Tothill being absent.

The gentlemen who did fulfil their pledges were Messrs. Robert Woodhouse, Storer Bennett and St. George Elliott.

The object of Mr. Woodhouse's demonstration was to illustrate the use of tin-foil as a good non-conducting medium beneath gold in cavities approaching the nerve. The first case was a left upper lateral incisor, mesial surface, the second a left upper first bicuspid distal surface. The sensitive portions bordering on the nerve were first covered with tin pellets; the anterior enamel was lined with Williams' C 1 cylinders, to prevent discolouration from the tin, the rest of the cavity was filled with un-annealed cylinders, and the contours restored with similar cylinders annealed in a spirit flame. Both operations were entirely performed by reflection in a mouth mirror.

Mr. Storer Bennett's demonstration referred to the Herbst method of filling :—

1st. Mesial surface of left upper central incisor; large cavity with somewhat frail walls. The tooth was filled by the rotation method, with Wolrab's gold, the filling and finishing occupying about half-an-hour.

2nd. The distal surface of a first upper bicuspid. The cavity was a large V-shaped space occupying the masticating and distal surfaces.

The tooth was embraced by the new Brunton-Ladmore matrix, and the cavity filled for half its depth, *i.e.*, the part nearest the cervical wall with tin foil by means of rotation instruments, the remaining portion being filled in a similar manner with Wolrab's gold cylinders. The time of this filling was also somewhere about half-an-hour, but the object was rather to show how the work was done than in how short a time it could be completed.

Dr. St. George Elliott filled the mesial surface of a right upper

bicuspid tooth with crystal gold, the operation occupying one hour.

The operators were necessarily working under great disadvantages; the room was overcrowded and oppressively hot. The problem of how to give such demonstrations in a manner that may benefit all the on-lookers and not prove too great a strain upon the performers remains still to be solved.

In our next issue we shall publish the rest of Dr. Cunningham's paper, and therefore we shall reserve the discussions upon it, and upon Mr. Fisher's paper.

(To be continued.)

Midland Branch.

AN open meeting of Members and Associates was held on Saturday, Oct. 30th, at the Young Men's Christian Association, Manchester, the President A. M. MATTHEWS, Esq., of Bradford, in the chair.

Present—S. Wormald (Stockport), T. Murphy (Bolton), I. Renshaw (Rochdale), J. L. Pike (Sheffield), E. H. Williams (Manchester), D. A. Wormald (Bury), W. H. Jewitt (Liverpool), W. Shillinglaw (Birkenhead), J. Harrison, F. Harrison (Sheffield), Geo. Frost, G. Broughton, W. Mackie, J. H. Jones, W. Kelly, W. Headridge, W. Dykes (Manchester), W. H. Waite (Liverpool).

The PRESIDENT invited remarks on any subject of professional interest.

Mr. JEWITT (Liverpool) described a case of replantation under his care which had so far resulted very successfully.

The SECRETARY also described a case which had occurred at the Liverpool Dental Hospital.

Mr. WILLIAMS, Mr. RENSHAW, and Mr. F. HARRISON also gave interesting details of similar cases. Some discussion took place in which several other of the members joined.

The SECRETARY spoke of the heavy loss sustained by the branch through the death of Mr. T. Mahonie, of Sheffield, and invited the members to pass the following resolution (which had already been passed by the Council) of sympathy with the bereaved family. Resolved: "That this Council desires to record its painful sense of the loss it has sustained by the sudden and deplorable death of one of its oldest and most respected members. In offering their sincere condolence to Mrs. Mahonie, the Council

would bear testimony to the genial and faithful manner in which her lamented husband always discharged the duties devolving upon him, in token of which they will cherish his memory with deepest respect."

This was supported by Mr. Renshaw and the President, and carried in silence.

The PRESIDENT described his method of procedure in the treatment of Alveolar Hæmorrhage, in which he insisted upon the importance of plugging with small pledgets of cotton which could be easily carried to the very end of the socket. He advocated lemon juice as a valuable styptic, and recited the particulars of a very serious case which he had successfully treated after all hope had been given up by a medical man.

The SECRETARY pointed out the two-fold origin of these cases, and the necessity of ascertaining which of the two causes was operative in every case.

Mr. JONES also gave particulars of a case of recurrent hæmorrhage, and Mr. F. HARRISON explained the causes of secondary hæmorrhage, showing that a primary coagulum must be followed by an internal coagulum within a ruptured vessel in order to affect a complete arrest of the mischief.

Mr. HEADRIDGE and others took part in the discussion on this topic.

Mr. RENSHAW called attention to the importance of the inspection of Jury Lists as they appear from time to time, in order that dentists whose names appear thereon may claim exemption from serving on juries, it being necessary for them to lodge their objection before the lists are sworn as correct before the Visiting Justices.

Dr. WAITE mentioned the importance of sending a newspaper notification of the decease of a dentist to Mr. Miller, the Registrar of the General Medical Council.

The members expressed their gratification at finding that Dr. Flagg's specialities could now be obtained in this country through Dr. Waite, who has been requested to become the agent for the same.

A vote of thanks to the President concluded the proceedings.

Southern Counties Branch.

A meeting of Members and Associates will be held on Saturday, November 27th, at the Town Hall, Brighton, at 7 p.m.

Formal papers are not solicited on this occasion, but short communications of professional interest will be welcome.

It would facilitate the business and success of the meeting if those gentlemen wishing to introduce any subject would kindly inform the hon. Secretary beforehand.

The Council will meet at 5 p.m.

J. DENNANT, *Hon. Sec.*,
1, Sillwood Road, Brighton.

ORIGINAL COMMUNICATIONS.

Compulsory Attention to the Teeth of School Children (the Army and Navy).*

By WILLIAM MCPHERSON FISHER, L.D.S.ENG.

THIS subject belongs entirely to the public—to its school teachers, o its physicians and surgeons, its parliaments and statesmen—therefore I would ask your aid in having it removed from professional seclusion to the region of popular interest and practice. There are, however, many reasons why the dental section of the medical profession should clearly express its views on this important subject. It is the field of their work, and they are therefore “in touch” with the ravages of tooth disease in all its forms. They are likewise the organized and specially trained teachers of the people on this subject.

Through our own Dental Act, we have accepted the responsibility of treating all dental shortcomings whatsoever; and if we as a profession are to keep the teeth up to the standard of our knowledge, we must teach the value of these organs to the masses, with the necessity of keeping them in those hygienic conditions necessary to their health, and without which they cannot receive treatment.

Did tooth disease come as an epidemic, or were it a contagious disease embracing a vital question, there would be more energy on the part of the public in adopting conservative dental treatment, and that especially for the young, in opposition to the present

* Read at the Annual General Meeting of the British Dental Association, held in London on Thursday, Friday, and Saturday, August 19th, 20th, and 21st, 1886.

listless apathy to prove that conservative treatment is necessary, let me draw your attention to the fact stated by Messrs. Ash & Sons, that 10,000,000 artificial teeth are required per annum, to satisfy the demand for replacing these organs. That a very considerable sum of money is spent per annum by the lower middle, and artizan population of our large towns on artificial dental aid goes without saying, though what the sum may be I have no means of knowing, though, doubtless, a fair estimate could be arrived at by the combined action of the members of this Association. This estimate is by no means necessary for proving the need of conservative treatment, though it would illustrate to the public what weakened physical life voluntarily spends per annum seeking to restore the ravages of tooth decay and disease by artificial structures, and it would likewise have aided me in showing that the method I am here urging would be less expensive, more healthy, and fruitful of every known hygienic principle in relation to the keeping of the teeth of the rising generations.

In discussing such a question as the subject of this paper, we have to consider "The origin of Tooth Decay" and "Its Diffusion."

The study of "the origin" finds out the causes and leads up to the true and scientific methods of treatment to establish a cure.

The study of the "diffusion of disease"—based on the knowledge of its causes—leads to the limiting of its area, through the sterilizing of the "soil" by attentive hygienic measures, which must be universal and unremitting.

The lessening of the diffusion of tooth disease is what I wish to be applied compulsorily to the mouths of school children. Day by day preventive medicine assumes greater importance, and we have the State taking a deep and varied interest in the welfare of its people with regard to the prevention of disease, through its Public Health, Factory, and other Acts, so that "the principles now affirmed in our statute books are such as, if carried into full effect, would soon reduce to quite an insignificant amount our very large proportions of preventible disease. It is the almost completely expressed intention of our law that all such states of property, and all such modes of personal action *or inaction, as may be of danger to the public health, should be brought within scope of summary procedure and prevention.*" I have hope of seeing the spirit of these public Health Acts yet brought home to the ordinary intelligence of our labouring and poorer classes, so that personal sanitation may keep pace with their surroundings. The effluvia of a cesspool

cannot be more deleterious to the public health than life sustained by a mouth within which you may find many suppurating teeth, extended in many poor class districts to that of a continuous ooze of pus, and that generally confined to adolescence.

I should like to see taken up as practical questions, by some of our physiological and pathological members, whether respiration continued through such mouths may not lead to the lodgement of the bacteria of pus in the tissues of the lungs, and also whether the continuous swallowing of pus into the stomach is not sufficient to disorganize the structure of the blood.

It will be my duty to-day, in advocating "compulsory attention to the teeth of school children," to give you a slight sketch of the conditions of many of the schools in this country.

REFORMATORIES AND INDUSTRIAL SCHOOLS.—I would first draw your attention to these schools, as they are directly under the control and inspection of the Home Office, though generally managed by local voluntary committees. The total number of schools under government inspection at the end of 1884 was 219. The total number of children

25,744 { boys, 20,846 } to which add
 { girls, 4,898 }
2,445 children in day industrial schools.

28,189 total.

The income of these schools was	-	£497,688	4	0
The expenditure	-	488,197	9	8
Balance	-	£8,490	14	4

the treasury paying £268,686 16s. 11d. for that year; for every child 5s., and in the case of training ships 6s. per week is allowed as money grant.

The Government grants are further increased towards the industrial training ships in the shape of consignments of musketry and small arms, &c., for *military drill*, which is much more severe physical training than mere school drill; the Government allowing the ships a guinea per week to aid the payment of a military drill instructor. This drill is in most cases further supplemented by splendid gymnasiums, all with the object of developing physical life. That such development is necessary, I will quote a few random extracts taken from the health and general condition reports in the blue-books on these schools for 1883-84 :—

"The chief difficulty lies in the poverty of the constitution of many of the boys."—Cumberland Training Ship, Row.

"The boys come into the school with a very poor capital of strength to build upon, but after a year or two of care and good physical conditions the children become more robust, and eventually do well."—Mossbank, Glasgow.

"Girls of poor strength and constitution on admission."—Aberdeen.

"A good many boys received of late of a low type and constitutionally unsound."—Akbar Ship, Liverpool.

You must understand that most of the children are about 12 years when they enter these institutions.

The medical expenses in connection with these schools average £7000 per annum. The school at Feltham, Hounslow, Middlesex, had alone over £410 of medical expenses for 1884, and the sum of £200 is not at all uncommon amongst these schools. Each of these schools has a local appointed medical officer who attends to it, and compiles an annual report on the health and general condition of these children, which is embodied in the reports to the Secretary of State for the Home Department, by Colonel Inglis, the Government Inspector.

In many of the schools there is periodically a medical examination—as in the army—where every child is passed in review, so that a child can be picked out here and there who is needing attention one way or another, and an endeavour made to prevent him coming on the sick list.

On examining the sick and general health reports of these schools I have never found any mention either of tooth disease or dental treatment, though I hope I showed satisfactorily in my last year's paper on this subject the amount of decay and the absolute necessity for its treatment. If the illustrations I have given you are fair types of the physical texture of these children, I cannot understand why the directors of these institutions, but most of all their medical officers, can lose sight of the perfect keeping of the teeth of more than 28,000 children, as one of the main and greatest factors in establishing physical health and physique for the youth of the coming generation, which is so absolutely essential to national prosperity. No child is admitted to these schools who is incapable of occupying a niche in the industrial pursuits of this country. I trust that soon a public opinion may be created on this subject, and that the public will impress upon every board of directors the necessity for attending to the teeth of the children.

Why the ordinary medical officers of these institutions have

ignored the treatment of these dental ailments so long is not for me to say ; it may be simply from the technical requirements of this speciality determining the distinctive condition of treatment which has prevented them, or the lack of special education, and hence, as they could not accept the duties, they practically ignored them. Yet in the higher ranks of life this has not been the custom, the physician and the surgeon both directing their patients to seek the aid of the dental surgeon in the treatment of the teeth.

In these industrial training ship schools during 1884 there were being trained for a sea-faring life 3,395 boys, and, as far as I know, without any attention being given to their teeth ; and yet to the majority of these boys how much depends upon their teeth for their selection of place, and their future financial and physical comfort ! During the existence of these schools—which are not yet thirty years founded—they have sent 11,000 boys to sea, and will in all likelihood send many more in the future. There were also about 2,000 boys disposed of to the army. To continue neglecting the teeth of these children—when they are at the age that the maximum of benefit may be attained with the minimum of work—seems to me somewhat like our legislature continuing a vice against itself, as the very boys the Home Office endeavours so well to develop physically strong, and on whom the Treasury spends so much, are ignored by the Admiralty if they have the misfortune to be in possession of a few bad teeth, when it is scarcely possible for them to be otherwise, as they do not get their fair share of attention and treatment to sustain their physical life. What seems to me nothing short of a burlesque is that the Admiralty sets up a dental standard of excellence and yet receives a boy *with* decaying teeth. After getting him, say at the age of fifteen, they make no effort to keep his mouth in condition, not even up to their own standard, and the consequences are that if he develops, or if any decay shows up by the time he is aged eighteen, when he is re-examined by the medical officer prior to entering as a marine, he is liable to be discarded from the service. In my opinion this is manifestly unfair and unjust. This strange anomaly I feel has but to be brought under the notice of the Secretary of the Home Office to be corrected. It only requires to be suggested, or orders given, by him to enlist the sympathies of the local directors of these schools in giving to the teeth of the children under their care the same enlightened attention as is given to the

other sections of their physical welfare. With one or two exceptions, where the appointments are held as honorary ones, I know of no dental attention being given to these schools, though otherwise they seem to want for nothing.

ORPHAN, HOSPITAL, AND ENDOWED SCHOOLS.—These schools occupy a large place in the rearing and educating of young life. They are in every way recognized as private schools, dependent on accumulated funds or the charity and benevolence of kindly disposed persons. There is no Government blue book on these schools, so I cannot give you either the number of schools or pupils; yet these schools, like those I have before mentioned, are all under the care of medical men. Speaking generally, there is no attention given to their teeth beyond that of the barbarous old custom of waiting on for exposed pulps, when the decayed teeth are removed by extraction to relieve the children from the agonizing pain of toothache. I wish I could only enlist the sympathies of the anti-vivisection party in our country to this subject, whose labours would be well requited in lessening and curing human pain, especially when confined to the young.

There are, however, a few exceptions amongst this class of school, such as "The Metropolitan and City Police Orphanage," Twickenham, which has 280 children, who remain inmates for five years. This school has had a dental officer since 1880. In its health report for 1881 there is mentioned: "Not more than one child in three enters the orphanage with sound teeth." The expenses for medical attendance and medicines for the year ending December 31st, 1885, were £143 3s. 3d. £20 of this sum was their dentist's annual remuneration, who says he can just keep them properly treated for that sum, though I am sorry to see no report from the dentist of this institution in its last annual report. I think the dental surgeon's individuality must not be lost if we are to educate all and sundry to the importance of attention to the teeth and the wide diffusion of their decay.

The governors of Christ's Hospital have also recently appointed a salaried dental surgeon to their staff, remunerating him with £100 per annum. I understand a similar appointment is held at the country section of this school in Hertford, though I am unable to inform you of the remuneration, and also regret my inability to supply details of these appointments, I have written to their secretary three times, and their dental surgeon once, but I have failed to elicit any suitable reply.

In Edinburgh, Donaldson's hospital remunerates its dentist with £10 10s. per annum, and John Watson's schools with £10. Their appointed dentist informs me that these sums "are far too small to anything like pay, and little else than extractions are done." He visits three times a year, and six or eight cases of filling are done at each visit.

Prior to their new arrangements, Heriot's hospital also used to pay £10 for dental aid of the same kind.

These are the only remunerated appointments I know of in this class of school, though I know of others being held as honorary appointments.

In the classes of children I have already drawn attention to, compulsory attention to their teeth is an easy question if the directors of these institutions will bestir themselves, as the children for four and five years, and sometimes longer, of the most important period of their life for attending to their teeth, are always under their care by being resident with them. They have teachers who can teach practical dental sanitation, and also see that it is carried out, which is emphatically the first step towards the saving of dental structures. As things are at present, I do not know of any of those schools being supplied with even the necessary toilet equipments for keeping the teeth clean.

THE ROYAL NAVY.—The total strength of the navy of this country is 60,000 men, the average strength afloat being about 43,000. To each and all of these men does the dental standard of the admiralty regulations apply. First, when they enter the service as boys at fifteen years of age, and at eighteen, when they rejoin as marines, and, finally, they are re-examined at ten years after the former examination, at the middle of their term of service, which is twenty years. Yet the medical authorities of the royal navy also ignore the treatment of tooth disease altogether, and I am safe to say very few of the boys receive any prior to entering. When I mention that 22,960, or 53.39, of the British navy are between the ages of fifteen and twenty-five years, need I say more to the members of my own profession to urge attention being drawn to this strange medical neglect at the proper quarters. That there is need of such, let me draw your attention to the following from the Navy (Health) Blue Book of 1884 :—

Diseases of the Digestive System.—The cases under this head numbered 6,690, the ratio being 155.58 per 1000. Much of this

class of diseases appears to prevail on foreign stations, and takes form of dysentery and diarrhoea, yet very much of it is classified as dyspepsia, acute and chronic ulceration of stomach, hepatitis, &c., on our home stations.

These I point out to you, from the close relationship of these diseases with the condition of the mouth and its furnishings, but when I mention that the average total in the royal navy of men *sick* daily for 1884 was 2,219.11, which is in the ratio of 51.6 per 1,000 men—it seems to me a fair average, from the consulting of the medical reports in a few modern blue books. I hope these men will soon receive the dental attention which will keep their mouths in that condition so necessary to the full establishment of health, and which quota of treatment will go far to relieve them from the large and varied class of diseases to which they are liable from their varied climatic distribution, not to mention the inconvenience of decaying and paining teeth. In the navy estimates for the year 1885-86, there was paid for medical establishments at home and abroad £67,738 2s. 9d. I think with this sum at their credit there is no excuse for neglecting the teeth of our sailors.

As I have before stated, I entirely disapprove of the admiralty passing any youths with decaying teeth, as that is but to allow them to go from bad to worse; and I would here distinctly and emphatically urge the necessity of dental appointments in the medical section of the royal navy, their dental officers either to hold movable or resident appointments at Portsmouth, Plymouth, or other head-quarters of that service, who would examine the mouths of the boys for entrancement, fill what teeth were decayed in the service, and surgically put the mouth into that hygienic condition which is necessary to sustain the strong physical life of Albion's defenders.

THE ROYAL NAVAL RESERVE consists of 30,000 men, made up of sea-men drawn from the mercantile marine service, 20,000 of whom are known as first-class men and 10,000 as second class men. I need not enumerate the qualifying distinctions, but no sailor can now enter this service, *or even rejoin*—which he does every fifth year—who has lost from five to seven teeth, and this means in money to the first class men £10 4s. and to the second class men £8 per annum, with medical and other advantages while on duty. I entered into this pretty fully in my last paper, therefore I need not recapitulate, but draw attention to the new

class of men the royal naval reserve are now enrolling, namely, firemen or stokers for their large steamships, this class receiving £5 per annum as a retaining fee, with no drill. Since the establishment of the firemen class in December, 1885, out of 320 applications for enrolment, 36 have been rejected on account of defective teeth, from the reports which are deposited in the London central office. In all probability there would be more than that, as the local secretaries of the mercantile marine boards very often answer the men thus—"Oh! you are defective in the teeth, and you need not go to the doctor, as you would not be passed," and hence there are numbers of men who are never entered in the books.

THE ARMY.—The army has already received attention at the hands of Mr. Gaddes, one of our members, whose paper will be found in our transactions in connection with the International Medical Congress of 1881, but army schools receive no other dental attention than that which can be received from the medical officers, of which there are about 1000 in numbers in the service of the army in times of peace.

There are 16,000 children in the army, who are supplied with all the necessary medical and surgical treatment, minus conservative surgical treatment, for their teeth.

In the army I would have appointments similar to what I seek to be provided for in the navy, that is, that each army medical corps should have its quota of qualified dental surgeons, to keep the teeth of the army in the best condition possible for fighting men.

WORKHOUSE SCHOOLS.—Workhouse schools contain another class of children under direct medical supervision, and when they are not, as is the case of boarded out children, medical attention is willingly paid for when required.

There is nothing to hinder a dental surgeon, any more than the ordinary medical officer, to hold an appointment under the Parochial or Poor Law Medical Act for the treatment of the diseases of the teeth of the very poor, which is so absolutely necessary for the comfort of that class, namely, that of a strong physical welfare; or what would suffice is the better equipment of our provincial hospitals with remunerated dental officers.

It affords me pleasure to testify of my appreciation to the growth of dental hospitals over our country, due to the zeal of many of my professional brethren, where even the very poor can have that

skilled attention, equal to the ordinary practice of surgery, without money and without price.

From the Board of Supervision for the Relief of the Poor, and of Public Health, Scotland, 1884-85.—The number of orphan and deserted children for Scotland during the year was 6,996, but the number chargeable on one day (14th May) was only 5,448. Of these, 3,576 were orphans and 1872 deserted.

The number of those children boarded out with respectable families in rural districts, was, for 1885, 4963.

Under section 69 of the Education (Scotland) Act there are 26,908 pauper children educated at an expense of £15,991; and also, under the same educational sectional section, 17,204 non-pauper children who received education at the cost of their respective parishes at an expense of £8,977. And this is exclusive of the cost in Deaf and Dumb Institutions and other similar places, and of course irrespective of the Industrial Schools.

In England and Wales for 1883 the total parochial medical relief expenditure was £317,233, out of a gross expenditure of £15,057,179.

I regret my inability to give the exact numbers of workhouse school children in England and Wales, likewise the number of non-pauper school children, educated at State expense, but these can easily be gained by anyone interested from the current blue books. The following letter from the medical officer of the Anerley Parochial schools may interest some of the members of this Association.

160, Anerley Road, Anerley,

June 24th, 1886.

DEAR SIR,—I must firstly thank you for your congratulations. Such an appointment is an immense stride and its attainment was solely due to the fact that my board of managers are a particularly able body of men, and moreover they are men who, when it was pointed out to them, did not expect their doctor to do work which he had neither time to perform nor the ability to execute. I have had a feeling that, in the old days, it would have been far better to leave the children entirely alone than to consign them to the far from conservative inspection of the school doctor, whose sole treatment was—Extraction. My board saw at once the importance of the conservative side of dentistry, and realized the absurdity of expecting a medical man, who had had no special tuition in this subject, to carry out its details.

The appointment has given me the greatest satisfaction, for I feel that now the work is being properly done, and a fertile source of

disease and chronic ill health, is being gradually removed. At present my satisfaction is to a certain extent theoretical, it is too early to judge of the practical value of the work done. I feel, however, certain that the mouths of the children generally are in a far better state.

I am, yours faithfully,

WM. FISHER, Esq.

HENRY J. PRANGLEY.

Since reading my former paper another appointment of considerable interest to us, as a profession, has taken place under this class, namely, that of the election of a dental officer to the Parochial District Schools of Upper Norwood. The directors of these schools have followed the lead of the Anerley Directorate in but a half-hearted manner when they offered not less than £30 per annum for a dental surgeon to take charge of the teeth of 700 children. When I mention that their advertisement produced thirty candidates for this appointment, I think you will admit that it is not with a mercenary motive any such appointment could be held. It is questionable whether the modern dentist can be true to his profession, himself, or his appointment, at such remuneration, but it is the thin end of the wedge, and what with annual reports and special applications to the directors, I think these appointments calculated to be a great lever in establishing physical force to the children, and a fitting outlet to our young educated dental practitioners.

BOARD SCHOOLS.—I am now face to face with the class of schools which contain the bulk of the children that go to form the population of this country. These children differ from the foregoing in that they are not under direct medical supervision beyond that of the local medical officers under the Public Health Acts, of whom there is quite an army in our country.

Scotland, with an estimated population of nearly 4,000,000 for 1884, had 684,467 children, with only 561,927 on its school registers.

England and Wales, with an estimated population for 1884 of 27,132,449, had on the registers of its public inspected schools 4,337,321 children ranging from three to fourteen years of age. These schools earn on an average about 17s. per scholar of a Government grant on passing certain educational standards. Since the passing of the Education Acts in 1872 and 1876 about £5 has been spent on school accommodation for each child in this country alone, not to mention the millions on education.

I draw your attention to these facts simply to endeavour to show you what interest the State takes in upholding the mental calibre

of the rising generations, and to illustrate, from the somewhat lavish expenditure on education, the necessity of a judicious expenditure in upholding weakened and impaired physical structures in our rising youth. Other nations are not dead to this question, as witness the following: "The Minister of Education in France some years ago forbade the use of cigars and tobaccos by the scholars attending the schools and colleges through the whole kingdom," simply because it was deleterious to the rising physical stock. It used to be the habit in some of the London Board Schools that the children met ten minutes before 9 a.m., so that their hands and faces might be examined for cleanliness. In the same spirit, and with the same motive, I would have them taught to keep the inside of the face equal with its surface. The parents of the scholars attending the elementary schools take little or no interest in the mouths of their children, and the result is we have disease tolerated in the mouth that would be tolerated nowhere else, with the result that many children go off their food, as they fear the process of chewing. Now this is entirely against the spirit of modern medical treatment, and it is this I seek to remedy in asking for compulsory attention to the teeth of school children. I have nothing new to propose in the methods of enforcing this attention beyond what I brought before your last annual meeting, and that was, in the main, that whoever has the educating of the child ought to be held as criminally guilty before the law in neglecting any of his physical structure as well as his educational career.

In corresponding with a dental practitioner of Leeds on this subject, he informed me that 90 per cent. of the teeth were bad in that town. If such conditions exist, there must be a large waste of human life, not ending in death probably, though often with far-reaching, ill effects on life, with a vast quantity of needless suffering, which, if regarded as such, would be matter for indignant human protest.

At one of our recent parliamentary campaigns, an elector asked the candidate—"If education becomes free, would you make it compulsory to have a qualified dentist appointed to examine the children's teeth?"

The Candidate replied—"That is not such a laughing matter. The subject has been seriously considered in America, and arrangements have been made in boroughs or States to have the children's teeth examined by qualified dentists. Some little time

ago an item of news to that effect appeared in our newspapers, which originated from the Board of Education of Chicago having granted permission to the Chicago Dental Society to examine the teeth of public school children for a period of six weeks, commencing about September 15th, 1886. The results of such examination will be tabulated and published in due time."

The question comes to be asked, gentlemen, if we as a profession are agreed as to the advisability and practicability of "compulsory attention to the teeth of school children" as being the best method for serving the public in arresting the diffusion of tooth decay; and, if so, How are we to set about its introduction? Until some such method as this is employed to teach the masses the value of these organs, with the necessary hygienic measures for their preservation, I am afraid tooth disease and decay, with all its attendant pains, will ever fall with immense over-proportion upon the most helpless classes of the community—upon the poor, the ignorant, the subordinate, and the immature; upon classes which in great part through want of knowledge, and in great part because of their dependent condition, they cannot effectually remonstrate for themselves against the miseries brought upon them. It is these circumstances which have the strongest claim on us, with the whole medical profession, to endeavour to lessen disease and pain, and the duty of the Public Health section of our legislature to enforce individual sanitation where it has relation to human life.*

Dentistry and Its Relation to the State.†

By GEORGE CUNNINGHAM, B.A. (Cantab.).

DOCTOR OF DENTAL MEDICINE (HARVARD UNIVERSITY), LECTURER ON DENTAL SURGERY APPROVED BY THE SPECIAL BOARD OF MEDICINE, UNIVERSITY OF CAMBRIDGE, MEMBER OF THE ODONTOLOGICAL SOCIETY, AND MEMBER OF THE REPRESENTATIVE BOARD OF THE BRITISH DENTAL ASSOCIATION.

(Continued from p. 683.)

WITH regard to another department of the State, there are a certain number of officials appointed by the State to perform active service abroad, frequently in places where access to the remedial treatment afforded by the ordinary dental practitioner is well nigh impossible.

* Copies of this, and last year's paper may be had for circulation from J. P. Matthew & Co., Publishers, Cowgate, Dundee.

† Read at the Annual General Meeting of the Association, August, 1886.

Before these appointments are ratified, a candidate has to undergo a rigid physical examination by a medical practitioner. A reference to app. O. shows the intimate relation of diseases of the teeth to the rest of the system, and therefore we are justified in asserting that an examination of the mouth and teeth ought to form a necessary part of that examination.

In order to prove the national importance of this subject, I will take as a type the Indian civil servant. All the candidates who successfully pass the first Indian Civil Service Examination, averaging from thirty to forty annually, before proceeding to India, undergo two years' probation, and are required to pass periodical examinations in special subjects of study. With a view to encouraging candidates to receive a University training, an allowance of £300 is given to all who pass their probation at some University, while a bonus of £150 is allowed to any probationer remaining in this country an additional year, and passing an examination qualifying for a degree in honours. At the beginning and at the end of this period of probation, the Indian Civil Service student undergoes a medical examination by one of the most eminent London medical practitioners. The expense of the two examinations, I believe £4 4s., is defrayed half by the State and half by the student.

A recent case in my own practice is a good illustration of the necessity of an examination of the mouth and teeth of such students. A strong, healthy young man of twenty-one, previous to his departure for India, consulted me for the treatment of a very carious left lower second molar; as is usual I made an examination of all his other teeth, when he learned to his surprise that his left upper incisor was abscessed. As the tooth had a large corner chipped off, I made inquiries and found that it was the result of a blow from a cricket ball when he was nine years old, but the tooth had never troubled him. On adjusting the rubber dam, and drilling through the palatal surface into the pulp chamber, I am not exaggerating when I say that the pus poured down through the opening for about an hour, saturating napkin after napkin. I found the history of the blow substantiated by the large funnel-shaped apical foramen. Despite the fistulous opening on the gum underneath the upper lip, a large maxillary abscess had developed, into which a probe passed a distance of about $1\frac{3}{4}$ inches. Such an accumulation of pus and tissue *débris* might at any moment have become a very fertile soil for the growth

of organic poisons, and thus act as a focus from which the general system might become most seriously affected ; as, for example, by ending in pyæmia and possibly death. I ask you to think what might have been the result had this patient gone to India, where he would be subject to new climatic influences, to changes of diet, and possibly to unsanitary conditions, carrying occluded in his jaw such a charge of pathological dynamite.

Since the education of such a student represents the investment of so much national wealth, from its being carried out at the expense of the State, it seems clear that in the interests of the State, as well as those of the individual, that a careful examination of the mouth and teeth should form part of these medical examinations. If the medical examiner does not feel justified in himself accepting the responsibility of performing this duty, he ought surely to point out to the authorities the necessity of a dental practitioner being appointed to make the examination.

We do not suggest that the mouth and teeth should be put in order at the expense of the State, but that the candidate for the appointment should satisfy the medical or dental examiner appointed by the State that he is well equipped as to his dental armament before proceeding abroad.

Besides the ordinary Indian Civil Service, the successful candidates to the Public Works Department, who are recruited from the Royal Engineering College, at Cooper's Hill, and the Indian Forest Department, should also be required to undergo this dental examination, as their education and appointment also represents a large investment of State capital. A reference to app. Q. suggests the advisability of the India Office adding a further note to their excellent recommendation that defective teeth may prove a barrier to State service.

With regard to the Indian Medical Service it would be to the interest of the State that some such provision as we have suggested for the Army Medical Department, subject to any modifications which may be necessary.

As an instance of how much good may be achieved, when the necessity of a better attention to the teeth is recognised by some one in authority, we may mention the appointment of a licentiate of dental surgery to the professorship of dental surgery at the Madras Medical College. The well-known Mr. Grant Duff, as governor of that Presidency, was astounded that no provision was made there for the teaching of dental surgery, and on his repre-

senting the matter to the Home Authorities, he was instrumental in getting an appointment made by the India Office, and also appointed Professor Gould as official dental surgeon to the Governor. As similar Medical Colleges exist in the Bengal and Bombay Presidencies, we may well ask why this important new departure in dental appointments should not be followed up by similar professorships in these institutions.

With regard to H.M. Post Office the following medical appointments have existed for some time, viz., a chief medical officer, at a salary of £880, and a second medical officer, at a salary of £428; and in addition to that there is an assistant medical officer, and an apothecary, who makes up and supplies the medicines prescribed. The recent appointment of a female medical officer, at a salary of £300, is doubtless due to the interest of the late lamented Mr. Fawcett in the medical education of women, and shows how readily great reforms are achievable by the higher officers of the State when they recognise the necessity for them. We would therefore insist upon the necessity of dental diseases receiving a similar amount of attention as is already extended to the medical diseases affecting these servants of the State.*

In the Metropolitan, as well as the City Police Office, medical appointments exist, and in so far as the medical practitioner provides medical and surgical services, we would deem it advisable to extend the benefit of dental conservative treatment to these perhaps humble but useful servants of the State. At present many State servants, policemen, soldiers, and others, seek relief at the dental hospitals, surely a just ground for these institutions expecting recognition in the shape of some contribution by the State to their funds.


With regard to the department of H.M. Prisons, we fear it would be more difficult to obtain an extension of the resources of modern dentistry to the unfortunate inmates, but surely it would not be too much to require the medical practitioners appointed as surgeons to these institutions, to have that elemen-

* An officer of the post office who has the knowledge necessary to give his opinion weight, writes me as follows: "The whole of the employées of the Post Office receive medical advice and medicine gratis, and when requiring their teeth seen to they are sent to a dentist outside, who charges them at a very low rate. I quite think a dentist should be appointed to do the work in the office."

tary knowledge of, and practice in, treatment of dental diseases, without which we think no medical practitioner should be allowed to graduate.

In conclusion I trust we have succeeded in showing where and how dental service should form a part of that medical service already provided by the State. Of all the ills that flesh is heir to, none are more common or more universal than those proceeding from the teeth, and though, as a rule, endangering neither life nor limb, they entail an immensity of suffering, varying in intensity and duration, which in the aggregate must lead to the inefficiency of the sufferer's daily performance of his duty, whether in his capacity as a soldier or civil servant. Surely then it is not presumptuous to seek to extend the skill and appliances of modern dentistry with its life-ameliorating and life-prolonging agencies to the servants of the State. The means towards that end we think are two-fold: firstly, a more thorough though limited dental training as a part of the education of the medical practitioner already employed by the State, and, secondly, the employment of the completely trained and fully qualified dental practitioner by the more extended resort to the remedial resources of dental science.

From the point of view of social economics, it is well to remember that where the State provides such medical service it is neither intended for the encouragement and benefit of the medical profession, though undoubtedly it has that effect; nor even for the benefit of the individual, despite the obvious advantages he receives thereby; but mainly and fundamentally such appointments are made in the interests of the State itself, for the welfare of the Commonwealth. Consequently, while we would ask your support for the furtherance of the views we have put forth as dental practitioners interested in the promotion of your specialty, and while we would also appeal to your sympathy for the extension of remedial dental treatment to the civil servant, and, above all, to soldiers and to sailors, the safeguards of our empire; but most of all, and on higher grounds, we would appeal to you to do your duty as citizens of a great State, by doing all in your power to promote those dental reforms which your special knowledge enables you, of all others, to recognise as all-important, and thereby to contribute your quota to increasing the efficiency of the service of the State.



APPENDICES.

DENTAL SURGERY IN THE ARMY. GADDES. TRANSACTIONS OF THE INTERNATIONAL MEDICAL CONGRESS, 1881, VOL. III.

IN March, 1857, the Director-General of the Medical Department issued a circular to the medical officers of the Service. In that circular Director-General Dr. A. Smith instanced the advances made in conservative dental surgery, and said, "There is no occasion for me to enlarge on the important influence, advantageous or the reverse, on the functions of digestion and nutrition which the sound or defective condition of the teeth exercises; and I need not dwell on the fact that their conservation is especially of consequence to soldiers, as their absence or defective condition found a very possible cause of impaired digestion, and consequent loss of health; and, moreover, occasionally constitute a direct cause of inefficiency and unfitness for military service. . . . I am of opinion that a considerable gain to the Service, besides comfort to individuals, would accrue from a more improved practice in dental surgery than that which has hitherto obtained in military life. I therefore hope that medical officers of the Service will co-operate with me in endeavouring to introduce into military medical practice the improved modes of treatment, now all but universally adopted in civil life."

In reply to the above-quoted circular of the Director-General, the medical officers pointed out that they had not received any practical instruction in a branch so absolutely requiring it, and that they were not supplied with the requisite instruments.

In October, 1859, there was presented to the Military Department of the Madras Government, a Report on Dental Surgery, by Acting-Garrison-Surgeon H. W. Porteous. That report showed that the Honourable the Governor in Council had in May, 1859, under his consideration the fact of the European soldiery being inadequately provided with any dental assistance, beyond extracting teeth when the cause of toothache. That it was resolved:—"A medical officer in every European regiment be instructed in dental surgery." That "the Commander-in-Chief is requested to issue such subsidiary instructions on the subject as his Excellency may consider necessary for giving it effect." Dr. Porteous at once made arrangements for carrying out in H.M.'s 44th regiment, stationed in Madras, the provisions of the former resolution. Prac-

tical instruction was given by him to the assistant-surgeons twice a week. For one group of 66 patients, 108 teeth were stopped and 203 roots extracted. The success of the system pursued was, in that instance, so far satisfactory that it was only necessary to extract three teeth, "two of these on account of alveolar abscess, and one in which the filling had induced more irritation than the patient was inclined to bear." The report continues:—"By the extension of the present system of instruction in dental science to assistant-surgeons of the army generally, it is hoped that the practice of extracting every aching tooth will be reduced to within the narrowest limits, and that the arrest of decay in teeth soon after its detection will be the means of preserving many of our soldiers' teeth which, under the present system, are sacrificed whenever they begin to be painful and troublesome."

Notwithstanding the success which attended Dr. Porteous' experiment of two seasons, and the valuable support this excellent movement had in Sir Charles Trevelyan, at that time Governor of Madras, and of the Director-General of the Medical Department, the Government took no action.

In 1865 Surgeon-General Balfour was requested to inquire into and report upon the health of the troops, stationed at the extensive barracks at Secunderabad. In an exhaustive letter of December 26th, 1866, he stated *that instances occurred of impaired assimilation from imperfect mastication, and a good dentist would preserve the teeth of many soldiers.*

TABLES SHEWING THE AREAS INCLUDED IN THE HOME MILITARY DISTRICTS.

I.—Northern (head quarters, York), comprising Anglesey, Berwick-on-Tweed, Carnarvonshire, Cheshire, Cumberland, Denbighshire, Derbyshire, Durham, Flintshire, Herefordshire, Isle of Man, Lancashire, Leicestershire, Merionethshire, Newcastle-on-Tyne, Northamptonshire, Northumberland, Rutlandshire, Shropshire, Staffordshire, Warwickshire, Westmoreland, Yorkshire, (East Riding), Yorkshire (North Riding), Yorkshire (West Riding).

II.—Eastern (head quarters, Colchester), comprising Bedfordshire, Cambridgeshire, Essex (except Tilbury Fort, Purfleet, and Coal house Point Battery), Hertfordshire, Huntingdonshire, Lincolnshire, Norfolk, Suffolk.

III.—Western (head quarters, Devonport), comprising Breck-

nockshire, Cardiganshire, Carmarthenshire, Cornwall, Devonshire, Glamorganshire, Gloucestershire, Haverfordwest, Monmouthshire, Montgomeryshire, Pembrokeshire, Radnorshire, Somersetshire, Trowbridge (so far as regards the Regular Forces), Worcestershire.

IV.—Southern (head quarters, Portsmouth), comprising Dorsetshire, Hampshire (except Aldershot), Isle of Wight, Wiltshire (except Trowbridge).

V.—Chatham (head quarters, Chatham), comprising Sheerness and Gravesend (including Tilbury Fort, and Coal house Point Battery, so far as regards the Regular Forces).

VI.—South Eastern (head quarters, Dover), comprising the Cinque Ports, Kent (except Woolwich and Chatham districts), Sussex.

VII.—Home (head quarters, Horse Guards, London), comprising Berkshire, Buckinghamshire, City of London, Middlesex, Oxfordshire, Surrey, Tower Hamlets, Victoria, and Royal Albert docks, North Woolwich.

VIII.—Woolwich.

IX.—Aldershot.

X.—North British (head quarters, Edinburgh), comprising the whole of Scotland.

XI.—Channel Islands.

XII.—Belfast.—Comprising Antrim, Armagh, Cavan, Derry, Donegal, Down, Fermanagh, Louth, Monaghan, and Tyrone.

XIII.—Dublin.—Comprising Carlow, Dublin, Galway, Kildare (including Curragh and Newbridge), King's County, Leitrim, Longford, Mayo, Meath, Queen's County, Roscommon, Sligo, Westmeath and Wicklow.

XIV.—Cork.—Comprising Clare, Cork, Kerry, Kilkenny, Limerick, Tipperary, Waterford and Wexford.

NOTES FROM THE ARMY MEDICAL REPORT, 1884.

In the year 1882 the average annual strength of the troops serving at home and abroad, was 174,557 warrant officers, non-commissioned officers and men (exclusive of the Royal Malta Fencible Artillery, the 1st and 2nd West India regiments, and the Gun Lascars at Ceylon, and at Hong Kong, corps which are not recruited at home).

Women:—The average annual strength was 8,632.

Children :—16,125.

On recruiting of the Army.

	Totals.	Ratios per 1000.
Number of recruits inspected ...	45,423	1000
Fit for Service	26,129	575.24
Rejected	19,294	424.76
<hr/>		
Rejected because of loss or decay of many teeth	360	7.93
<hr/>		

TABLE SHOWING THE AVERAGE RATIOS PER 1,000 OF THE STRENGTH FOR THE SAME PERIOD OF 10 YEARS OF THE ARMY AND NAVY, OF ADMISSIONS INTO HOSPITAL, NUMBERS INVALIDED (SENT HOME OR DISCHARGED THE SERVICE), AND DEATHS FROM DISEASES OF THE DIGESTIVE SYSTEM.

SERVICE.	RATIO PER 1,000 FROM 1872 TO 1881.		
	ADMISSIONS.	INVALIDED.	DEATHS.
Army.....	202.50	7.27	3.99
Navy	167.22	4.14	0.71
<hr/>			
Difference in favour of the } Navy	35.28	3.13	3.28

Appendix D.

TABLE SHOWING THE AVERAGE STRENGTH, ADMISSIONS INTO HOSPITAL, DEATHS, NUMBERS INVALIDED AND CONSTANTLY SICK DURING THE YEAR 1882—WITH THE AVERAGE RATIOS PER 1000 OF THE STRENGTH FOR 10 YEARS—FROM DISEASES OF THE DIGESTIVE SYSTEM.

Stations.	Average Strength.	Admissions into Hospital.	Died.	Invalids discharged the Service.	Average number constantly sick.	Ratio per 1000 from 1872 to 1881.			
						Admissions.	Deaths.	Invalids discharged the Service.	Constantly sick.
United Kingdom	86847	9768	107	96	354.37	109.0	.48	1.96	3.72
Gibraltar	4558	490	4	3	19.10	84.9	.22	1.64	3.73
Malta	4619	525	4	5	21.50	146.3	.35	.57	5.32
Cyprus	595	109	1	—	171.7	171.7	.266	2.66	5.66
Canada	1892	222	2	4	3.44	108.0	.20	.99	2.75
Bermuda	1446	177	1	—	4.04	140.8	.73	.91	4.40
West Indies :—									
White Troops	492	72	2	1	1.60	119.5	1.00	1.00	4.14
Black	1120	141	5†	—	5.64	92.8	2.49	1.25	5.57
West Africa (Blacks)	580	81	2†	—	2.92	136.0	3.84	1.65	4.79
The Cape and St. Helena	3944	464	10	15	26.64	186.4	4.56	2.51	10.72
Mauritius	382	84	2†	1	2.51	227.1	5.66	1.89	6.97
Ceylon	990	281	4†	4	13.51	284.6	9.14	2.46	13.43
China and Straits Settlements...	1663	233	—	3	11.74	164.3	1.65	.73	7.02
India :—									
Bengal	36330	7875	107	73	340.05	249.0	5.24	2.70	9.01
Madras	10817	2430	28	17	123.89	251.6	3.95	2.66	11.75
Bombay	10197	1863	13	13	74.19	231.5	4.68	2.78	8.34
Egypt	6198	4590	130	1	—	*740.6	20.98	.16	—
	172670	29405	422	236	1011.70	202.5	3.99	1.67	6.70

† In the Command—no deaths in the ranks.

* Ratio per 1000 for 1882 only.

In the foregoing table, owing to the difference in tabulating the Returns from Abroad by the Department, the column shewing the number of soldiers sent home has been omitted. The total amounts to 1,043 on a strength of 75,823. The ratio per 1,000 of the strength for ten years is 5.6, which with the 1.67 invalided discharged the service, gives a total of 7.27 per 1,000 invalided.

ARMY MEDICAL REGULATIONS.

*Appendix No. I.*REGULATIONS FOR THE EXAMINATIONS OF ARMY SURGEONS,
WITH SUGGESTED AMENDMENTS.

1. Rules for Examination of Army Surgeons.—This examination is intended to test the progress and proficiency of the Surgeon, in all those branches of knowledge which are essential to his continued efficiency as a medical officer, and may be taken at any time between his fifth and tenth year of service.

2. It will embrace the following subjects:—

- (a) Surgery, operative and practical, including field surgery and transport of sick and wounded.
- (b) Medicine and pathology, including practical pharmacy and modes of prescribing and administering remedial measures, food, drink, &c.
- (c) Hygiene within the limits treated of in "Parke's Practical Hygiene."
- (d) Duties of Executive Medical Officers during peace and war at home and abroad, and at sea, as defined in the various codes of regulations issued for their guidance.

3. A certificate will be required from a recognised teacher of surgery in any medical school at home or abroad, in which operative surgery is taught, showing that the medical officer has gone satisfactorily through a complete course of operative surgery during the period within which the examination must be taken, and that he is a competent operator.

4. A report on any subject of a practical professional character to be selected by the officer himself, and certified to be his own composition, and in his own hand writing will also be required. Considerable importance will be attached to the literary and scientific merits of this report."

Suggested Amendments.

(b.*) Dental Surgery, operative and practical.

3.* A certificate will be required from a recognised teacher of dental surgery in any medical school at home or abroad, in which dental surgery is taught, or in any recognised dental school, making the necessary provision, showing that the medical officer

has attended a special course of at least twenty lectures on dental surgery, and has gone satisfactorily through a complete course of clinical instruction of not less than three months, during the period within which the examination must be taken, and that he is a competent operator.

5. That any medical officer possessing any dental qualification recognised by the General Medical Council, will be exempted from examination in dental surgery.

ARMY CASE OF TOOTH STOPPING AND SCALING INSTRUMENTS.

Appendix No. 24.

(See paragraph 868.)

Contents of case of tooth stopping and scaling instruments :—

- Scalers and stoppers (4).
- Excavators and roseheads (3)
- Sheets, gold leaf.
- Amalgam.
- Gutta percha.
- Leather case.

NOTE.—Four sheets of gold leaf (sic) and $\frac{1}{2}$ oz. of amalgam are the quantities supplied. *Cost of case complete, 38s.*

Paragraph 868, requires that at the head-quarters of each military district, one such equipment be provided for use throughout the district.

Appendix No. 25

(See paragraph 871.)

Contents of case of tooth instruments :—

Upper permanent Teeth.

- No. 1. Incisors, canines and bicuspid.
- „ 2. First and second molars, right.
- „ 3. „ „ „ left.
- „ 4. Third molar.

Lower permanent Teeth.

- No. 5. Incisors, canines and bicuspid.
- „ 6. First, second and third molars.
- „ 7. Straight } stumps.
- „ 8. Bent }

Nos. 9, 10, 11 and 12, for children.

1 set of 6 elevators to fit 1 handle, 1 tooth key and 3 claws,
1 spring gum lancet, mahogany case.

NOTE.—*Paragraph 871.* At each station hospital whether for 1,000, 500, or 250 troops, one such case of extracting instruments is provided.

Appendix No. 26.

(See paragraphs 73, 98.)

ARMY CASE OF TOOTH EXTRACTING INSTRUMENTS AND
REGULATIONS CONNECTED THEREWITH.

Contents of pouch of tooth instruments.

NOTE.—These are similar to above only in a leather pouch instead of a mahogany case.

Paragraph 58. "At stations when considered necessary by the officer commanding and the principal medical officer, a medical inspection room will be provided in barracks, in which men reported sick and prisoners will be seen, and where medicine and instruments as laid down in paragraph 73 will be kept."

Paragraph 73. "The medical officer will be responsible for the charge and will render, in manuscript, a half yearly return of the medical and surgical equipment of inspection room, which includes 'one pouch of tooth instruments.'"

Paragraph 98. Requires that a case of tooth extracting instruments shall form part of the medical and surgical equipment to be put on board a troop ship, or hired transport at a port of embarkation.

Hospitals in the Field.

Advanced Dépôt of Medical Stores.

Paragraph 780. The medical officer in charge of a field hospital, "will on requisition replenish from his reserve panniers the field medical and surgical panniers, field companions and surgical haversacks held by medical officers attached to corps and bearer companies." The contents of No. 1 "Reserve" Medicine pannier (6 provided) includes :

Tooth forceps	} in leather {	No. 2.
„ key with 3 claws		case { „ 1.

Paragraph 781.—"He will keep his own equipped and reserved panniers replenished by requisition on the medical officer in charge of the advanced dépôt of medical stores ; and he will also, when necessary, under authority of the principal medical officer, obtain from the dépôt, on loan, a pair of the special surgical panniers, containing special instruments and appliances."

The No. 2 "special surgical pannier (4 provided) includes :—

1 *pouch tooth instruments*, containing :

4 pair forceps.

1 key.

1 spring gum lancet.

1 elevator.

DEPOT OF MEDICAL AND SURGICAL STORES AT BASE.

Paragraph 818.—"A depôt of Medical and Surgical stores is established at the base of operations of an army in the field, for supply of medicines and surgical appliances to all hospitals connected with the force, and also to hospital, troop and transport ships."

NOTE.—The case or cases of tooth instruments may be traced to the base, but the provision of a tooth stopping case or cases is not clear,—most probably not provided.

(To be concluded.)

Trismus due to Dental Irritation.*

BY MORGAN HUGHES, M.R.C.S., & L.D.S.Eng.

GENTLEMEN,—The subject I wish to bring before you is "Trismus due to Dental Irritation."

Trismus due to this cause is uncommon, though I think hardly so rare as anybody searching medical or dental literature for cases, would be induced to believe. It is on account of this poverty of our literature on the subject, that I venture to record a case of trismus that has happened in my own practice, as well as a few other cases that I have been enabled to get particulars of, hoping that a discussion may arise on them, which will bring to light others from the experience of the many members of the profession present to day.

Case 1.—Mrs. D—, æt. 35, married, a charwoman, came to me on May 15th, 1886, looking very ill and worn. I found that her jaws were almost completely closed, and that it was impossible to separate the teeth more than one-fifth of an inch, between the front incisors. She had a scar beneath the angle of the jaw on the left

* Read before the Southern Counties Branch of the British Dental Association, July 24, 1886.

side, where a sinus had recently healed up. On examining the mouth I noticed that the left lower wisdom tooth was badly decayed on the coronal and buccal surfaces. The tooth was normally placed behind an uncommonly good set of strong sound teeth.

The patient gave the following history of her trouble :—Twelve months previously she suffered from pain and tenderness along the left side of her mouth, the pain being worst at meal times. In a fortnight her face was immensely swollen on the left side, and coincidently with the swelling, she found she was unable to open her mouth. She consulted dispensary doctors, who advised poultices and lancing. The latter she declined, but persevered with the former until the abscess burst into the mouth. The trismus continued as badly as before. Another month's poulticing caused the abscess, which had again filled, to burst externally. The medical men attending her seem to have recognised that the tooth might be the cause of the trouble, but advised her not to have the tooth extracted until after her confinement, which was not due for another three months; and after the child was born further delay was considered necessary on account of her maternal duties. The patient meanwhile had to live on "slops," or meat chopped fine enough to insinuate between her front teeth, which were at no time more than one-fifth of an inch apart.

Her previous health had been uniformly good, and she had never suffered from toothache or rheumatism.

I succeeded in extracting the tooth at once by means of a curved elevator, which, with the tooth, I hand round for your inspection. I saw my patient again this week (eight weeks after the operation) and found that there had been rapid improvement in the first fortnight, and more gradual progress afterwards. She is now able to separate the teeth fully an inch, and can masticate her food as usual.

For the next case I propose to bring before you, I am indebted to my friend Mr. C. J. Boyd Wallis of Brook Street, who has most kindly sent his notes as follows :

Case 2.—I was called in to see Colonel —, aged about 45, whom I found confined to his room suffering from trismus. The patient had been under medical treatment for closure of the jaws, attended with pain in the region of the lower right wisdom tooth. An abscess, attended with swelling under the jaw and down the side of the neck followed, and at this period I first

saw the patient. The wisdom tooth was not visible, but upon probing I found it placed somewhat longitudinally as indicated in sketch, and very sensitive on percussion :



I therefore judged it to be the cause of the mischief and advised its removal. The mouth was forced partially open by means of a screw gag, and then I found it necessary to remove in the first instance the second molar to enable me to get at the wisdom ; both teeth were removed successfully, but with difficulty. I was surprised, from the nature of the swelling, to find no trace of pus, and therefore suggested that the swelling should be opened externally—this the medical attendant did, and a great quantity of pus escaped. The wounds were syringed out and hot fomentations ordered to be applied to the swelling. The patient made a rapid and satisfactory recovery, and left for duty in Egypt a fortnight later. The wisdom tooth was found to be badly decayed, and the second molar had a large crown metal filling, but appeared otherwise healthy.

I am indebted to Mr. Jonathan Hutchinson, jun., F.R.C.S., Surgical Registrar to the London Hospital for sending me the notes of a case that occurred there under Mr. Rivington, and also for his kindness in searching several books of reference for cases.

Case 3.—Alice H—, æt. 24, on June 24th, 1884, had part of her first molar removed under gas. Next day trismus came on. Two days later she had the remaining part of the tooth removed. As she continued unable to open her mouth, she was admitted to the London hospital under Mr. Rivington. On July 6th the spasmodic contractions were confined to the muscles of the jaw—the pulse was regular (72) and the temperature normal. The trismus varied in amount at times, but as it did not subside on July 18th the mouth was forcibly opened with a gag, and after this had been repeated, the symptom entirely ceased.

Case 4.—Dr. Mapother, of Dublin, read a paper on trismus arising from impaction of the lower wisdom teeth, before the Surgical Society of Ireland, on January 30, 1880, (published in *British Medical Journal* for March 27th of that year.) The trismus had existed for 18 months; the patient being a lady, aged 24. The central incisors could only be separated two lines. Under an anæsthetic the left third and second molars were extracted, and the slight subsequent stiffness soon subsided. Dr. M. holds that trismus can never be set up by the right upper wisdom teeth, but that the unyielding nature of the coronoid process predisposes to it in cases of difficult eruption in the lower jaw.

As trismus in dental cases has not ended fatally, and we have consequently no post-mortem examination of the parts to guide us—theories as to the pathology of its causation are necessarily highly speculative. Salter, after relating a case of spasmodic trismus, says: "it may be a question whether the muscular spasm in this and similar cases is caused by contiguous irritation, or is the result of reflex nervous action." I venture to think trismus may be due either to a mechanical cause, reflex nervous action, or to a combination of the two factors. As an example of the purely mechanical cause, we may take closure of the jaws due to the contraction of cicatricial tissue. Of the purely reflex, most of the spasmodic cases of trismus; and I think the combination of the two causes is exemplified in many cases in which the swelling and tension of the contiguous soft parts is considerable.

Some light may perhaps be thrown upon the question why trismus should occur in some cases of dental irritation and not in others, by briefly glancing at the facts in the cases I have brought forward. In case 1 the source of trouble is a lower wisdom tooth, with a history of pulpitis and abscess. *Coincidentally* with the abscess trismus comes on. If the latter was due simply to the swelling and inflammation of the soft parts, we should expect the symptom would subside with the disappearance of the cause; but this does not happen, for no improvement whatever takes place after the bursting of the abscess. An exposed tooth pulp could not be the source of a reflex contraction, as the pulp must necessarily have been dead at the time the trismus came on. I cannot help thinking that in this case pressure on the dental nerve by the growth of the abscess sac is the most likely cause. The plastic exudations at the apex of the wisdom tooth would be the

first part of the abscess to form, and the last to disappear *until* the tooth was removed. The close contiguity of the inferior dental nerve to the roots of the wisdom teeth, and the dense unyielding character of the bone are favourable to this view, and may account for the fact that dental trismus is almost invariably associated with the molars in the lower jaw.

In Mr. Wallis's case the wisdom tooth was placed abnormally, but it must be more than doubtful if impaction was the direct cause of the mischief, as the gentleman was aged 45, an age at which most people have long cut their wisdom teeth, and the tooth itself was badly carious. The trismus in this case seems to have preceded the swelling, but not necessarily the formation of the abscess sac. Whether it was due to pulpitis or pressure by the abscess sac, closure of the jaws would probably have continued as long as the immense collection of pus was allowed to remain as a mechanical hindrance to the movements of the jaw. Dr. Mapother's case seems to have been due to what is probably the most common dental cause of trismus, viz., impaction of the lower wisdom tooth. In this class of case pressure on the inferior dental nerve is again probably the cause. The case is also interesting as showing that muscular loss of tone from disuse is not an important factor in trismus, as we are told that though the trismus lasted eighteen months, the slight subsequent stiffness after the removal of the teeth soon subsided. In the London hospital case we have trismus coming on as the result of an unsuccessful attempt at the extraction of a first lower molar. The trismus was spasmodic and variable in amount, and was probably a reflex disturbance, originating in the laceration of the parts during the operations for its removal. I have now only to thank you very much for the kind way in which you have listened to my "very casual" communication, and I hope it will serve to start an interesting discussion.

Iodol as a Dental Therapeutic.

By E. LLOYD WILLIAMS, M.R.C.S., L.R.C.P., L.D.S.Eng.

A QUERY in the last number of the Journal as to whether its readers had "commenced to use the new drug Iodol" tempts me to say a few words with regard to its value in our specialty. We are indebted to Mr. Boyd Wallis for first calling our attention to iodol, which he mentions in the April number of the

Dental Record, under the heading of "New Remedies," and I am personally indebted to him for a sample of the drug which he sent me last March. Since that time I have constantly used it as a substitute for iodoform, on account of the disagreeable odour of the latter, and have had extremely good results. As its chemical properties have been already fully described, it will suffice to enumerate some of the ways in which it is adapted for dental purposes, and mention the formulæ which I have found most useful.

Iodolised Wax.

Paraffin ...	...	...	...	...	...	3iij.
Spermaceti ...	...	...	...	...	...	āā 3ij.
Iodol ...	...	...	...	...	...	3j.
Carmine ...	...	...	...	...	...	gr. i.

Yellow Wax.

This is a capital substitute for the iodoform and wax, which we formerly used as a fang filling; it melts at a lower temperature, and is more easily packed. I first of all dry out the canal with a saturated solution of iodol in chloroform, and having wrapped round a smooth Donaldson bristle with sufficient thin Japanese bibulous paper (which for this purpose is far preferable to cotton wool) I apply a small quantity of the wax, and having gently heated over a spirit flame, so as to allow the paper plug to be soaked, the dressing is carried to the canal in a soft state, whilst the pulp chamber is filled with more wax, and sealed with the aid of a hot air syringe. Care should be taken not to liberate the iodine by overheating, although iodol is not decomposed under a temperature of 212° Fah. : (not 100° as stated in last month's notice, where probably 100° C. was meant).

Iodol Varnish.—Saturated solution of iodol in absolute alcohol one part, Hubbard's negative varnish four parts.

In difficult cases, when the canals are not easy to get at, the paper plugs may be saturated with this antiseptic varnish as a substitute for iodolised wax. It is also useful for varnishing surfaces of dentine in close proximity to the pulp, especially where Sullivan's amalgam is the filling employed. In a paper recently published in the *Journal* the writer states that in cases just indicated Sullivan's stopping is less irritating than other forms of amalgam; this is certainly not my experience, and I invariably protect such parts from the irritation caused by the deposition of copper salts. The surface to be varnished should be thoroughly

dried with a current of warm air, and the layer of varnish should be hardened by the same means; in this way an absolutely moisture-tight surface is produced in thirty seconds, which may be exposed to the fluids of the mouth with impunity immediately afterwards. I have personally, for some years past given up the attempt to save exposed pulps—excepting of course cases of accidental exposure of small area—but to those who still attempt to accomplish what is next to impossible, I would recommend the use of varnish as affording good protection without irritation.

For some considerable time I used iodoform in connection with osteo and gutta percha fillings to render them antiseptic, but this had to be abandoned on account of the unpleasant taste which persisted for an incredibly long time. Iodol, however, answers the purpose admirably. To the oxide of zinc powder a sixth part of the drug should be added before mixing; this does not appreciably interfere with the durability of the stopping, and as it is, at its best, but a temporary filling, cannot materially affect its usefulness. An oxy-phosphate prepared in this way does well for flooring large cavities, especially where thermal irritation is to be warded off. To those who prefer osteo as a permanent fang filling the antiseptic value of added iodol must be of immense value. For the last seven months I have used the drug incorporated with gutta percha—either Hill or Jacob—with much advantage, especially in dead teeth, where much of our success must depend upon careful antiseptic precautions. Although so marvellous in its action in arresting decay, we have all deplored the absorbent quality of gutta percha, which renders it readily septic in the fluids of the mouth, and the unpleasantness complained of by hyper-sensitive patients even after a dressing which has been allowed to remain only for a week or two. In the future I have no doubt but that we shall be supplied with gutta percha stoppings which are antiseptic in character, and I have already tried one which packs well and seems desirable as a filling, sold by the Dental Manufacturing Co., who have also kindly undertaken to supply the other preparations mentioned.

HOSPITAL REPORTS AND CASES IN PRACTICE.

Erroneous Impressions under Nitrous Oxide Gas.

By A. HOWARTH, L.D.S.Eng., Bradford.

IN Mr. Underwood's Notes on Anæsthetics he mentions the case of a lady declaring that she felt the pain of an extraction while under the influence of gas, though in reality the extraction had not been attempted. As I have recently met with a case of a similar nature, I thought a record of it might be of interest to your readers.

My patient, a minister, about 45 years of age, and of a very nervous temperament, consulted me on the 7th June last about the removal of several teeth and roots. The gas was administered by a medical man, and I extracted three teeth, without any unusual symptoms except extreme rigidity of the patient, which passed off with the effects of the gas. As all the offending teeth were not removed at this operation, another appointment was made for the 12th, and gas again administered, the patient expressing a wish that it should be given more fully than on the previous occasion, as he felt each tooth leave the jaw. I need scarcely say this remark did not influence us at all, but we proceeded to administer the gas as before, when exactly the same symptoms appeared, save that in this instance the patient was far more rigid than on the previous occasion; in fact, with his feet against the foot rest, and his shoulders against the top of my (Wilkerson) chair, the force was so great as to break in two one side of the chair. The administration was continued for a few seconds after the chair gave way, with a view to overcoming the rigidity, but without result. As soon as the face piece was removed I proceeded to place my finger and thumb on the gum, when the patient groaned just as though no anæsthetic had been administered, and altogether impressed me with the idea that he was still conscious. As I had promised that I would not do anything that the patient would feel, I made no further attempt at extraction, and as the breathing was quite normal, we waited for the patient to regain consciousness. As soon as he did so, he declared that he felt every tooth, and it was only with the greatest difficulty that we could persuade him that the extraction had not even been attempted, of course we explained why this was so, and after seeing the damage done to the chair, he expressed great regret at what had happened.

Gas was administered again a week later, and the rest of the teeth removed ; the symptoms were again similar to those on the former occasions, but not so strongly developed. The patient again declared that he felt the pain, and especially of the last root, which happened to be so small that it was almost impossible to hold it with the forceps.

I should be glad if you or any of your readers could suggest an explanation of these phenomena.

MINOR NOTICES AND CRITICAL ABSTRACTS.

Mastication.

A CURIOUS controversy is in progress as to the need or value of "biting one's food." Strangely, as it must appear, there are some who should be authorities, ready to affirm that it is futile to take the trouble to use the teeth with which nature has provided man in common with most other animals apparently for the special purpose of cutting and grinding his food. Little, if any, weight is attached to the evidence of facts in this dispute. The existence of the dental apparatus counts for nothing. Nor does it go for much that movements of the jaw promote the insalivation of the food. In short, mouth digestion is treated as a myth or little better. What are we to understand by all this? Is it one of the early fruits of that attempt to popularise the science of physiology which has been so persistently and unselfishly made by the medical profession in the supposed interests of public health and the prevention of disease? We do not incline to mingle in the fray, just at present at least. Let the dispute go on and be fought out to the bitter end. Meanwhile, we counsel all who care for their comfort, and who do not desire to develop the worst form of dyspepsia, to continue the practice of mastication as before. As a matter of fact and experience, a liberal use of the teeth in feeding is one of the essentials of easy digestion, and though we are not prepared to assert that it is necessary to bite each morsel of meat precisely twenty-five times, it is better to err on the side of masticating too much than on that of not masticating enough : first, to divide the food and crush its fibres and particles generally, and secondly, to mix it so thoroughly with the secretion from the salivary glands that not only shall the act of deglutition be ren-

dered easy, but that the food when it enters the stomach shall have been properly prepared for digestion in the gastric juice.—*The Lancet*.

Brooke's Soap.

THIS soap, which is specially recommended by the proprietors for cleaning and polishing metallic vessels in ordinary domestic use, we have found very useful in the cleaning of surgical instruments. It does not answer satisfactorily in the case of knives, as the gritty material in its composition spoils the edge, but for forceps and other instruments not of a cutting character it answers admirably. In cleaning these, it is better to depart from the plan proposed in the directions given, and use the soap dry, scraping some of it on to a "buff-stick"—that is, a piece of wood shaped like a razor-strop, to which a strip of buff leather has been fixed down one side, and then rub the instrument on this. It is very effectual in removing dirt and recent stains, at the same time giving a good polish.—*British Medical Journal*.

Cucaine.

PROFESSOR REDARD and his assistant, Dr. G. Andina, of the Geneva Dental School, have employed hydrochlorate of cucaine as a local anæsthetic in forty cases of tooth extraction. They used a 15 per cent. solution, injecting into the gum in average 50 or 75 centigrammes of the alkaloid by means of an ordinary Pravaz's syringe. In all the cases, extraction, which was performed usually in ten minutes after the injection, was absolutely painless. No unpleasant accessory effects, except some nausea and heaviness of the head in young girls and children, were observed. The author's results, therefore, coincide with those published by Mrs. Helene Vongl-Sviderskara, of St. Petersburg (see the *London Medical Record*, July, 1886, p. 304), who, however, used far larger doses.—*British Medical Journal*.

Dental Caries in Bakers.

PROF. DR. HESSE, of Leipzig, in the *Deutsche Monatschrift*, points out the deplorable condition of the teeth of bakers, and says that he is often able to tell the profession of the patients by the condition of their teeth. The caries is soft and rapidly pro-

gressive. The principal parts attacked are the labial and buccal surfaces of the teeth, commencing at the cervix and rapidly extending to the grinding surface. The approximal surfaces do not seem to be attacked more than in other patients. He believes the disease to be due to the inhalation of flour-dust, the caries being caused by the action of an acid which is formed in the presence of fermentable carbohydrates.

Dental Surgery at Guy's Hospital.

In a leading article published on October 2nd, attention was drawn to the growing importance of the art of dentistry, and the increasingly intimate relations it was establishing with various departments of medicine and surgery, and to its importance to the State. It is thus most gratifying to note that the dental surgery department at Guy's Hospital has recently been much enlarged through the energy of the dental surgeons, Mr. Moon and Mr. Newland Pedley, coupled with generous aid from the authorities in providing a new set of rooms and appliances. A large room, now devoted exclusively to dental surgery, has been chosen, so that an excellent light is obtained, and has been fitted up with hot and cold washing appliances, gas lamps, reflectors, dental engines, water motors, saliva ejectors, new dental chairs, and a complete set of instruments and appliances. Out-patients are seen daily, and Thursday afternoons are specially set aside for cases requiring surgical treatment and the administration of nitrous oxide gas. On Friday afternoons, demonstrations on the stopping of teeth and the minor operations of conservative dentistry are given, and the method of fitting artificial plates, which are supplied to those patients from whose mouths portions of the jaw have been removed as the result of accident, disease, or surgical operations, is shown. Many opportunities are afforded for seeing cleft palates, and other oral deformities under mechanical treatment. It is hoped that these advantages will enable not only those students of Guy's who wish to become dentists, but others who desire some knowledge of the details of dental work, to acquire the necessary acquaintance with the possibilities of conservative dentistry.—*British Medical Journal*.

A LEGACY of some £15,000 has been left to the Jena University to be applied in zoological research on the basis of Darwin's

evolution theory. The testator is Herr Paul von Ritter, of Basle, who believes the teaching of Darwin to be the greatest sign of progress which the century has yet given.—*Lancet*.

REPORTS OF SOCIETIES AND OTHER MEETINGS.

The Odontological Society of Great Britain.

ON the evening of Monday, the 1st inst., the thirty-first session of this Society was opened by the President, Mr. T. CHARTERS WHITE, with a short address of welcome to the assembled members.

Several candidates were ballotted for and elected members of the Society, and Mr. G. A. Ibbetson was, amidst much applause, unanimously elected an honorary member.

The Curator (Mr. Storer Bennett), reported that since the last meeting of the Society in June, six specimens had been received for the museum. Three of these—viz., the skulls of two ibices and of a black leopard, had been sent from India by a donor whose name Mr. Bennett had not then been able to ascertain. Mr. Dunn, of Florence, had sent two very interesting specimens,—viz., an upper and lower jaw, found in an ancient Etruscan tomb, and which might therefore be presumed to be about 2,500 years old. They had belonged to different individuals, and were both of them somewhat damaged. The teeth of the upper jaw, which were small, showed a considerable amount of wear, but no trace of caries, and hardly a trace of tartar. The teeth of the lower jaw were also considerably worn, and some of them presented the dark appearance seen when rapidly advancing caries has been suddenly arrested, redeposition of lime salts subsequently taking place ("hard brown decay"); there had evidently been also an edge to edge bite. Some amount of absorption had taken place round the necks of the teeth, and there were some small nodules of tartar to be seen.

Lastly, the Society had acquired by purchase the skull of an African manatee. Mr. Bennett pointed out the principal characteristics of this specimen, described its dentition, and compared it with the skull of another animal (the Dugong) belonging to the same order, lately acquired by the Society; one of the peculiarities met with in both, and in all members of the order *Syrenia*, being that the bones of the ear were placed external to the skull instead of being enclosed in an auditory bone.

The PRESIDENT said he was sorry to have to state that he had

received letters from two officers of the Society, the Treasurer and the Librarian, regretting their inability to be present owing to illness. Happily both seemed to be on the road to convalescence. He then called upon the Secretary to read a letter which he had received from Mr. James Parkinson, offering for the acceptance of the Society, a portrait of Mr. T. A. Rogers.

Mr. Parkinson wrote that it was with very great regret and disappointment that he found himself unable to be present at the meeting to offer to the Society a portrait of an old and valued friend, Mr. T. A. Rogers. Several of his friends had taken advantage of an opportunity which presented itself of procuring it for the Society, and offered it as a small token of the great regard they felt for Mr. Rogers, and the value they attached to the great services rendered by him to the society, and to the profession at large, during the past thirty years.

At the first meeting of the Society, in Nov., 1856, Mr. Rogers was one of the active and energetic secretaries, and he held this post till 1861, during a period of great anxiety to those engaged in the formation of the Society, and a large measure of the success attained was due to his judicious management. In 1865, and again in 1881, he was elected President, fulfilling the duties of his position most ably and generously on both occasions, and was for many years a valued member of the Council. Mr. Rogers also worked hard for the establishment of the Dental Hospital and School, taking upon himself the important post of Dean of the latter institution, in which office his genial manner, kind and sound advice and ready encouragement, were highly appreciated. More might be said in enumerating Mr. Rogers' services, were it not that these were already sufficiently well known to the profession. Mr. Parkinson trusted, therefore, that the picture would be received with a hearty welcome.

The portrait, which like those of Mr. J. Tomes and Mr. Parkinson, lately presented to the Society, is by Mr. C. H. Macartney, and a very satisfactory likeness, was then uncovered.

The PRESIDENT replied that he accepted the picture on behalf of the Society, as a welcome addition to the collection of portraits of the founders of the Society which it already possessed. To all those who had known Mr. Rogers, it would serve to recall his amiability and warm-heartedness, his dignity of character, and his constant desire to further the interests of the Society. In its name he thanked the donors most heartily for their valuable and acceptable present.

Dr. ST. GEORGE ELLIOTT then read a letter from Dr. Taft, President of the Section of Dental and Oral Surgery of the International Medical Congress of 1887, asking for promises of papers to be read before the Section, and for the names of those who would be willing to give demonstrations of practical work either in operative or prosthetic dentistry. We publish this letter in full at p. 755.

Dr. ELLIOTT added that he should be glad to receive the names of any gentlemen who might be disposed to comply with Dr. Taft's request.

He would also take the opportunity of making another announcement. The only American degrees recognized by the Medical Council were those of Harvard and Michigan Universities. Both these bodies required all candidates to pass an examination in general knowledge, and this was sometimes a source of trouble to men who had been occupied for several years with professional work. The University of Michigan had therefore recently decided to hold its preliminary examination at various centres in this and other countries, so that students living at a distance who thought of trying for its dental degree might be able to pass the examination in general knowledge before commencing their professional studies.

Mr. STORRER BENNETT exhibited a girl, aged 16, who showed a very remarkable dentition. In the lower jaw there were the two first permanent molars, the four milk molars, two deciduous canines and one peg-shaped temporary incisor. In the upper jaw there were only the roots of the deciduous canines and the right first permanent molar. The temporary centrals and the left first permanent molar had been extracted on account of caries, but no other teeth, so far as could be ascertained, had ever been erupted. There was nothing remarkable in the appearance or in the history of the patient or any of her family.

Mr. CHARLES TOMES showed a model of a curious case of arrest of development of the molar teeth. The patient, a man aged 25, came to him complaining of pain in the right upper second molar. The pain appeared to be due to exposure of the pulp due to absorption produced by the pressure of the wisdom tooth. Mr. Tomes therefore extracted it, and found to his surprise that it had no roots. He then ascertained by passing a probe beneath it that the six-year-old molar had no roots, though the crowns of both these teeth were fairly developed, and he was inclined to doubt whether any of the molars had roots. This

arrest of development was remarkable from the fact that though the check occurred at the same stage of the growth of the tooth, it must have occurred at different periods in the life of the individual.

Mr. COLYER showed models of a case very similar to that which had been exhibited by Mr. Storer Bennett. They were taken from a gentleman aged 30, of excellent physique. He had seven temporary teeth and the four six-year molars; since the eruption of the latter teeth no others had appeared.

Mr. S. J. HUTCHINSON laid before the Society some practical hints which he hoped might be found useful.

All must have at times experienced the annoyance, when mounting gum blocks, of finding the joints come out black on the finished plate. Various expedients were adopted to prevent this, such as covering the joints, inside and out, with strips of No. 60 gold foil, but these were not always successful. He found that the easiest way of getting over the difficulty was to put the case into a thick paste of chloride lime; at the end of six or eight hours the black lines would be found to have entirely disappeared.

In pivoting teeth it was often convenient after preparing the root and taking a model to send the patient away and complete the operation at a subsequent sitting. But to be obliged to go about for a day or two with a gap in the front of the mouth was an unpleasant ordeal for a lady, and in order to obviate this he found it a good plan to keep a few pivot teeth on hand of various sizes and colours and to insert one of them, roughly suited to the case, until the proper tooth is ready. In the opinion of most patients even a bad match was better than the conspicuous disfigurement.

No doubt most of the members present had sometimes found it troublesome to match the incisors of elderly people when the neighbouring teeth were dead, or dull from the deposit of a thin layer of tartar. The plan usually adopted in such cases was to rub the surface of the artificial tooth with sand-paper, but an easier way was to wipe over the surface of the tooth with a little fluoric acid, which took off the gloss and left exactly the smooth dull surface required.

Others besides himself must often have wished that they could make two hands do the work of three, as for instance, when one wants to use both hands in filling a cavity on the lingual surface

of an incisor and to hold a mouth mirror at the same time. The plan he adopted under these circumstances was to place cork between the teeth and have a mouth mirror with a piece of wire attached, instead of the usual handle, which could be stuck into the cork in any required position. He knew that some practitioners had a means of attaching the mouth mirror to the rubber dam clamp, but he thought his plan the easiest and simplest.

The PRESIDENT thanked Mr. Hutchinson for his useful practical hints and remarked on the importance of making temporary pivots secure, mentioning the case of a lady patient of his who did not come back for six weeks, and then apparently only because she had swallowed the tooth.

Mr. F. J. BENNETT and Dr. St. GEORGE ELLIOTT also commented on Mr. Hutchinson's suggestions, after which Mr. Walter Coffin showed specimens of hard rubber faced with metal by a process recently introduced by Mr. M. G. Cunningham, and explained the method. This consisted in inserting a layer of finely sifted filings or precipitated metal between the model and the unbaked rubber. The flask is first packed and closed with a piece of calico or rag between the rubber and metal, then opened and the cloth removed. The rubber is then painted with an adhesive solution, the metallic powder spread upon the prepared surface of the rubber and also on the model, and the flask again closed and steamed in the usual way. After the vulcanizing the metallic surface is finished with a smooth stone and burnished, and if properly prepared may be plated, gilt, or otherwise treated by the electro process, and the metal thus increased to any desired thickness.

Mr. Coffin added that the coating obtained by this means certainly adhered very firmly and could not be removed without destroying the surface of the rubber. As yet, however, his attempts to electroplate upon it had not been very successful, and he found that the process was attended by a considerable loss of gold which had to be taken into consideration in reckoning the supposed saving between this and a gold plate. Still the plan had its advantages and appeared to be worthy of further trial.

Dr. WALKER said he had used the process successfully, but sufficient time had not yet elapsed to enable him to speak as to its durability, and Mr. CUNNINGHAM, who was present, explained Mr. Coffin's failure in plating by pointing out that he had omitted the preliminary step known as "quickenig" the surface. Messrs. Dennant and Moore also took part in the discussion.

Mr. H. C. WALTER then showed and explained the action of Tauber's Hydraulic Press for swaging plates, which he claimed to be a great advance on all previous attempts in this direction. The demonstration was watched with much interest.

The meeting then closed with the customary vote of thanks.

The International Medical Congress, 1887.

SECTION OF DENTAL AND ORAL SURGERY.

THE following letter from Dr. Taft, President of the Section of Dental and Oral Surgery, has been received by Dr. St. George Elliott, who will be glad to hear from any member of the profession who is disposed to comply with Dr. Taft's request:—

MY DEAR SIR,—We desire at the earliest possible moment to ascertain who will prepare papers and work for the Section of Dental and Oral Surgery of the International Medical Congress to be held next year. Will you give me the names of fifteen to twenty dentists in Great Britain and Ireland, who could and would be willing to prepare papers for the Section?

Preparations are being made for a very extensive and complete, presentation of clinical and prosthetic work. The aim is to arrange for ten to twelve operating chairs which may be used by the best operators of each country and thereby have all the best methods presented by the best skill in the world. Benches, lathes, furnaces, &c., will be furnished for the use of the best skill that can be found in prosthetic dentistry. Thus will be demonstrated all the various methods of constructing and inserting artificial substitutes. Facilities will also be made for various branches of scientific work, microscopical and histological, with illustrations of the most perfect kind. Operations upon, and treatment of exposed pulps, diseased gums, and other soft tissues of the mouth will be performed by the best ability extant.

Thus you see the plan is devised for large things. I trust that the meetings will be so arranged that sufficient time will be afforded for the profitable carrying out of this scheme. The clinics and practical work will be conducted in the best possible adapted rooms to be obtained in the vicinity of the hall in which the meetings of the Section will be held.

This will give you an idea of the contemplated work of the

Dental Section. Please give me your suggestions at your earliest convenience.

Yours very truly,

Cincinnati, Ohio, U.S.A.,
October 7th, 1886.

J. TAFT.

ANNOTATIONS.

WE have just received from the Dean of the Dental Hospital the gratifying news, that the College of Surgeons of England, have consented for the future to allow candidates for the L.D.S. to take eighteen months out of the three years before the date of Registration. Full particulars of this important concession will appear in our next.

CHLOROFORM. — With reference to certain comments in our issue of October 1st, on a recent case of death of a dental patient in Dundee, after chloroform had been administered. We have been informed that these comments (coming from our Journal) have given rise to impressions detrimental to the interests of Dr. Stewart, of Dundee (in whose premises the accident occurred). The comments in question were made in absolute ignorance of the detailed circumstances of the case. We have since been informed that the anæsthetic was administered contrary to the urgent advice of Dr. Stewart and the medical man present, and that the drug was only employed after the persistent entreaty of the patient. We understand that Dr. Stewart agrees with our views upon the use of chloroform in dental cases, and should be sorry if our comments have been or should be misconstrued.

THE following remarkable case of poisoning by cocaine is recorded by Dr. W. E. R. Wood, in the *Australian Medical Gazette*, of August 15th. Four minims of a twenty per cent. solution of cocaine were injected into the cheek of a man for the relief of tooth ache. Within five minutes of the injection the patient became restless and inclined to vomit. He then began to feel a sensation of pins and needles, first in the left hand and arm, and then also in the right. This was speedily followed by contraction and rigidity of the fingers, arms, and legs, and a tendency to

opisthotonos; the muscles of the mouth and cheeks were also strongly contracted. His pulse become extremely rapid and feeble; respirations short and convulsive, hands and feet cold, and profuse perspiration set in. Brandy and sal volatile were administered freely, mustard was applied over the heart, and friction to the arms and legs, and chloroform was used cautiously to relieve the spasmodic contractions. After the lapse of an hour the patient's pulse began to improve and his colour to return, and at the end of another hour there was very decided improvement; but it was about five hours before the effects had entirely passed off. It should be added that the same quantity of a ten per cent. solution had been injected on a previous occasion with very satisfactory results.

MR. A. HOWARTH, of Bradford, has sent us the account of a very interesting phenomenon that occurred in his surgery, the details of which may be found at page 746. The problem he offers for solution, will prove rather a teaser for the most ingenious among us. It amounts in brief to this:—A nervous man, after recovering from nitrous oxide gas, declared that he felt every root extracted, when as a matter of fact, for certain cogent reasons, no extraction had taken place. The man undoubtedly thought he felt the pain, and this was, of course, as bad for him as if he had felt it; for imaginary pleasures and pains are quite real to the sufferer, and demand treatment as urgently as any other forms of disease. It would be an interesting experiment to tell the gentleman whose experiences Mr. Howarth relates, that he was going to have the gas without any operation, and when he was unconscious take out a tooth, and then see if he declared that he felt it; no doubt very slight causes give rise to very definite dreams, and in a case of marked constitutional hysteria like the present, the prepossession that something was to be done, and the preparations he saw around him, gave rise to the dream which resulted so unpleasantly for both operator and patient.

A LITTLE book by Mr. Martindale, on "*Coca, Cocaine, and its Salts*," (H. K. Lewis), tells nearly all that is known of the history and cultivation of the remarkable drug, and the various preparations of its marvellous alkaloid. The name of the compiler, as a pharmacist always abreast of the times, is a guarantee of accuracy and research; but we regret to record an impression—

which a pharmacological treatise should not produce—that the pamphlet is written too much in the “interest of the drug.” It would better commend itself as an acceptable guide to the use of cocaine, if the recorded cases of alleged disastrous abuse or overdose of the remedy were more fully and frankly quoted. The recitation of travellers tales from ancient history—to be discredited when questioning the harmlessness of the plant—could well be spared ; but with these reservations the compilation of references and authorities is valuable.

On the 3rd inst., at the meeting of the Board of Examiners for the diploma of Licentiate in Dental Surgery of the Royal College of Surgeons, England, consisting of John Wood, F.R.S., Jonathan Hutchinson, F.R.S., and J. W. Hulke, F.R.S. (on the surgical side,) and A. Winterbottom, F.R.C.S., C. S. Tomes, F.R.S. and J. S. Turner, M.R.C.S., L.D.S. (on the dental side), the following gentlemen, having passed the necessary examination in Dental Surgery, were admitted Licentiates of the College.

Acton, John Streets, Woodlands Road, Barnes Common.

Baker, Arthur Ernest, Camden Road, Oakley Square.

Croucher, Arthur Thomas, Osborn Terrace, Clapham Road.

Kendrick, Alfred, Nugent Road, St. John's Wood.

Ludbrook, Frederick Milner, Shalcombe Street, West Brompton.

Moore, Henry John, Charing Cross Hospital.

Patterson, Charles Augustine, Archway Road, Highgate.

Smith, John Percy, Smith Street, Chelsea.

Tibbs, John Arthur Seymour, Old Steine, Brighton.

Williams, Herbert, Talgarth Road, West Kensington.

Woodhouse, Joseph, Camden Road, Oakley Square.

AN excellent suggestion has reached us, emanating from the Central Counties Branch of the Association. Mr. Breward Neale, the secretary to the Branch, writes to suggest the appointment of special correspondents in each of the large towns and districts, whose duty it should be to forward to the Journal all items of dental news with which they might become acquainted. Something of this nature has long been desired by the Publishing Committee. Indeed, in days gone by, some such scheme was actually set afoot, but, owing to the want of energy on the part of the correspondents, died a natural death. We are, however, led to hope from the letter from our Branch that another attempt to arrange a mechanism of correspondence would meet with

energetic support, and under such circumstances it could not fail to add materially to the usefulness of the Journal as a means of disseminating dental news. We shall endeavour to give practical effect to Mr. Breward Neale's suggestion.

THE First Meeting of the Second Session of the Manchester Odontological Society, was held on the 5th October, at the Grand Hotel, Aytoun Street, when the President delivered his inaugural address, in which he treated of the necessity of a practical education for the dentist, and the supreme importance of local dental societies, where by the discussion of professional matters, and intercommunication of ideas, this education can be carried on throughout a lifetime. The rest of the evening was taken up by examining a large selection of dental instruments and appliances exhibited by the Dental Manufacturing Company. The officers of the Society for the current year are—*President*, Dr. Parsons Shaw; *Vice-Presidents*, Messrs. P. Headridge and L. Dreschfeld; *Councillors*, Dr. P. Betts, Messrs. H. Campion, W. Dougan, W. Dykes, J. H. Molloy and G. W. Smith; *Treasurer*, Mr. H. Planck; and *Hon. Sec.*, Mr. George G. Campion.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.—At the October sitting of the Examiners, Mr. Alfred Stevens, London, passed the first professional examination for the licence in Dental Surgery, and the following gentlemen passed the final examination and were admitted L.D.S. Edinburgh:—William John Fisk, Brixton; Arthur Farish Benson, Yeovil; Arthur Cocker, Yorkshire; and Charles Maclean Cunningham, Leith.

It may be gratifying to many of our readers to know that Professor J. J. Sylvester, F.R.S., D.C.L., who has recently been elected to the distinguished position of "Savilian Professor of Mathematics" at the University of Oxford, is the brother of a respected member of our own profession—Mr. G. J. Sylvester, of Worcester. It is always a pleasant thing to find the kith and kin of our members rising to high positions in any of the other learned professions.

WE learn that the authorities of the National Dental Hospital and College have decided to admit to the advantages of the school, ladies who are registered as medical students. It is

understood that several applications have already been made by female medical students.

THE Student's Society of the National Dental Hospital held a successful smoking concert on the evening of Wednesday, the 10th inst., Mr. Willoughby Weiss occupying the chair. We hope to give further particulars in our next issue.

EDINBURGH DENTAL SCHOOL.—The Session 1886-87 opened on November 1st, with a roll of eighteen students, nine of these being new entries.

JUST before going to press we learn to our great sorrow that the world of science has lost one of its most distinguished celebrities, M. Paul Bert.

CORRESPONDENCE.

We do not hold ourselves responsible for the views expressed by our Correspondents.

The Fifty-ninth Congress of the German Natural Science and Medical Association.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—The fifty-ninth Congress of the German Natural Science and Medical Association was held in Berlin from the 18th to the 24th September last, under the presidency of the celebrated Dr. Virchow. The meeting was an extremely successful one, the attendance of active members numbering 4,155, besides numerous visitors. The three great general meetings were held in a large circus beautifully decorated for the occasion, where one had the opportunity of hearing excellent papers from such well-known men as Siemens, Fresenius, Hofmann, Bardeleben, Cohn, His, Neumayer and Von Bergmann. The most popular attraction of all was the paper of Professor Stricker "Upon the Value of Teaching by Illustrations," after which he gave a most interesting demonstration with his famous new electrical microscope.

Probably, however, the best work was that done in the various sections, of which there were thirty in all, ten of which were devoted to Natural Science, pure and simple, and the remainder to various departments of medicine, surgery, and hygiene.

Among the new sections, which were added this year, was that on Dentistry, and the unequivocal success of this new departure must be extremely gratifying to our German fellow-practitioners.

The more than usually business-like way in which the sittings were conducted was in no small way due to the firm and energetic presidency of Professor Busch, the director of the Berlin Dental Institute. The members of this section amounted to 67 in all, including such well-known names as Professors Miller (Berlin), Hollander (Halle) Sauer (Berlin), and Drs. Witzel (Essen), Islai (Budapest), Jenkins (Dresden), and Herr Herbst of Bremen.

One of the most interesting features of the meeting was certainly the address of Herr Herbst on his rotation method of gold filling, and his mode of making and using matrices. This address was illustrated by a very complete and valuable collection of models shewing the origin and development of the rotation method. This valuable collection he presented as a gift to the Dental Institute of Berlin. He also described the success and recognition which the rotation system has found in America. He claims that the method is very much improved, and that he now makes use of a No. 10 foil, and strips of a thickness equivalent to No. 30 (folded), besides the usual Wolrab cylinders. His mode of employing steel and shellac matrices for the reduction of compound cavities to the state of simple crown cavities was extremely interesting and ingenious. He further explained the method of making stone instruments for the rotation method and his very practical series of preparations for producing a good finish on gold fillings. There was little discussion on this address, with one exception—Herr Warnekros, of Berlin, called attention to the difficulties of filling grinding surface cavities by the Herbst method. He maintains that it is a mistake to give the even simple cavities a round form and prefers to give them a flat box-like form. This he maintains makes a filling easy, no matter what other method of filling is adopted, though he apparently is greatly in favor of the flat ribbon method. Great skill, he further alleged, is necessary for thorough execution by the Herbst method. His remarks were illustrated by numerous interesting diagrams by which he sought to prove his views. In his reply, Herr Herbst declared that the most difficult approximal cavities are the easiest of all that occur in the mouth, if only use is made of his method, while flat grinding surface stoppings are in reality the most difficult.

In another short address Herr Herbst recommended lining the transparent wall in front teeth with a coating of gold, and filling up the posterior part of the cavity with amalgam. The discussion that followed seemed to prove that this method had previously been described by the late Dr. Qsigmondy, of Vienna, but without the rotation method it had not proved a very practical operation. A further experience of this operation was deemed necessary before deciding as to its desirability.

Professor Miller, of bacteriological renown, delivered an address "On the Combination of Tin and Gold as a Filling Material." The first

fillings made with this combination of tin and gold were made by Dr. Abbott, of Berlin, some 25 years ago. Until recently, this combination has been little used because of a fear of the possible electrical effects. He maintained, however, that seven years ago he had conclusively proved that electrical currents between dentine and fillings were impossible, and from a prolonged experience in the use of the material, and an extensive knowledge of the results of Dr. Abbott's practice, he was convinced that no possible damage could occur to the tooth from the combination of two metals in one stopping. He claimed the following advantages for the combination of tin and gold as a filling material—firstly, it admits of easy and quick manipulation; secondly, it possesses great durability; thirdly, it is a bad conductor of heat, and fourthly, it is not injured by the admission of moisture. The ease of manipulation he well demonstrated while continuing his address, by filling, in a few minutes' time, a very large crown cavity in a molar tooth, held in a hand vice. He usually takes a sheet of No. four or five gold foil, lays it on a sheet of tin foil, and rolls these with his fingers into a long loose rope, with the tin to the outer surface, though the results are the same if the gold is rolled externally to the tin. Its employment is indicated in all difficult and inaccessible cavities where the teeth are of poor structure. In very large compound cavities he frequently fills two-thirds with the combined tin and gold, and finishing the remainder with gold alone, by which he is enabled to restore the contour with sufficient strength to withstand mastication, &c. As the material discolours in a time, its use is not indicative in front teeth. In the discussion, Professor Sauer testified to his knowledge of the excellence of the results obtained by Dr. Abbott with this combined filling material. Professor Hollander called attention to the employment of tin and gold, as mentioned in Quinby's work on operative dentistry, but as Dr. Richter very justly remarked they must not confound the method recommended by Mr. Quinby with the Abbott method, as the former uses first tin alone then gold alone, one over the other. Dr. Sachs expressed his obligations to Professor Miller for his past instructions in the use of this combined filling material of tin and gold, which he regarded as the ideal filling material for saving teeth of poor structure.

Herr Farreidt, of Leipzig, read an interesting paper on "Cysts of the Teeth and of the Jaw."

Herr Hillischer described his researches on combined nitrous oxide and oxygen narcosis, and the improvements on the apparatus which he has invented.

Professor Miller gave a short address on the Restoration of the Contour of Carious Teeth, by means of small pieces of porcelain, teeth accurately filled and fixed by cement. The models which he

had made for the illustration of his remarks were a good example of a fine filling and close adjustment.

Professor Sauer addressed the meeting on the regulation of the front teeth, also on the use of aluminium bronze in mechanical dentistry.

Dr. Eysell, of Cassel, read a paper on "Contraction of the Nasal Cavity, arising from a Narrow Palate and Abnormal Position of the Teeth."

Dr. Richter, of Berlin, read some interesting notes "On Antiseptics in Dentistry."

Professor Busch described his method of making tooth sections and microscopic dental preparations: He also delivered an address "On the Various Abnormalities in the Number of the Teeth," concluding with some very interesting remarks on the dentitio tertia.

Herr Morgenstein shewed a patient in whose mouth was a very successful case of a replanted molar. He also discussed generally the recent successes in replantation.

Herr Warneleros gave an address on "The Use of Cocaine in Dental Operations;" and also another "On the Unsuccessfulness of Large Contour Operations (*gold hills*, as he called them.)"

Dr. Sachs of Breslau, read a paper on the Relative Advantages of Contour Fillings or Permanent Separations. In the discussion that followed professor Miller, by means of large plaster models, successfully demonstrated the advantages of contour fillings over the V-shaped method of treatment.

Several series of demonstrations were held in the Dental Institute. Those which attracted most attention was, first, that given by Herr Herbst, in which he filled a large mesial crown cavity in a second bicuspid by means of the rotation method, choosing that, as he said, because it was more difficult than a similar cavity on the distal surface—and, secondly, that by Dr. Göttinger in which he successfully demonstrated the advantages of tin and gold combined as a filling material.

The large museum which formed not the least part of the Congress was very largely attended both by members and the outside public. The dental part of this museum was especially praiseworthy and excellently arranged. In addition to the usual dental *dépôt* exhibits, which are nearly always done well, a very interesting and instructive display was made by three professional organizations. The largest and most important was the exhibit of the Berlin Dental Institute, which included a fine collection of Professor Miller's cultivations of the micro-organisms found in the mouth.

An especially interesting exhibit of obturators and other artistic artificial restorations of facial and palatal defects was made by the central Verein Dutscher Zahnärzte, which is a sort of analogue of our own Association.

The most striking exhibit of all, however, and, perhaps, the best from an educational point of view, was that made by the Technical School of the *Zahnkünstler Innung*. This school has been started by a society formed by the Mechanical Dentists (*Zahntechniker*) who are unregistered in Germany, with a view of competing with the regularly licensed and registered dentists, who are known by the higher title of *Zahnärzte*—and whose education is conducted in the State Schools of Medicine and Dentistry.

The social entertainments were of unusual magnificence—for instance, at the Stadt Fest given by the Municipality of Berlin, about 7000 sat down to an excellent banquet, after which the artists of Berlin, and their friends, to the number of some hundreds, performed a triumphal torch-light march and a Greek play in pantomime, in front of the Temple of Pergamon, in the grounds of the Jubilee Exhibition.

Cambridge.

GEORGE CUNNINGHAM.

The Brighton, Hove and Preston Dental Hospital.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Believing that a false impression may have been created through the comments made by Mr. Dennant upon the formation of the above-named institution, in justice to myself I deem it right to explain my position and reason for co-operating with its promoters. So far as I am concerned, I must exonerate the promoters from having either designedly interviewed, persuaded or promised any position on the staff to induce me to change my attitude. In the first place, when I was solicited to vote against the project, I distinctly stated that I was open to conviction, although I considered it an unfavourable time for its formation. On the night of their first meeting, being somewhat indisposed, I was unable to attend early enough to hear the whole of the arguments in its favour. Some weeks afterwards, having occasion to see Mr. J. Wood on another matter, it was explained to me that the promoters of the hospital had the promise of eligible premises at a moderate rent. My greatest objection—namely cost—being removed, I then offered to co-operate with its promoters, expressing a hope and belief that other dental practitioners would adopt the same course. It may be said that strict etiquette has not been carried out, but let us take into consideration that many unsuccessful attempts have been made to form a dental hospital in Brighton, and that ultimately it must have come. Some resident dental surgeons who are not on the staff have kindly offered to render pecuniary support, and as the first quarterly report (which was made on October the 1st) shows that the hospital is doing good service, it is to be hoped that at the expiration of the year a more united feeling

will prevail. I may add that I have made these remarks entirely upon my own responsibility, and without the knowledge of any gentlemen connected with the Dental Hospital.

Yours faithfully,

West Brighton,

WM. LLOYD POUNDALL.

Oct. 11th, 1886.

The L.D.S. England.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—May I be allowed to occupy some of your valuable space this month to answer one or two letters that appear to require a reply.

Mr. Laurence will forgive me if the answer is concise, I am sure. The conjoint colleges recognise no professional work done before a preliminary examination has been passed, and the candidate registered as a medical student. To those who have fulfilled these requirements before entering a general hospital for the dental curriculum the work taken for the L.D.S. will be allowed to count also for the conjoint diploma, and the candidate can see by referring to page 593-4, the September number, the extra work required from him. Those gentlemen who have obtained the L.D.S. or commenced their education before 1878, and are exempted from the preliminary, or who, without curriculum, have passed the necessary standard and received the dental diploma, must begin at the beginning, and take the full curriculum for the double qualification, commencing with the preliminary, the hospital work done for the L.D.S. cannot be counted as having been done before registration as a medical student. Any further information in my power I will gladly give to any gentleman who will call at the Dental Hospital, Leicester Square, any Wednesday morning.

I should be pleased to reply to Dr. C. Cunningham's strictures if you have no abler correspondent to do so. Neither you, sir, nor anybody else, have a word to say against gentlemen who after obtaining their diploma here, seek experience wherever it can be obtained; if in any country it is possible to become a "complete master of an art" by all means a student should go there. I venture to think that a visit even to America cannot accomplish so desirable an end. With regard to England the truly scientific man is said to be a student all his life, and never to become a "complete master"; but when the student returns from his tour abroad he would display better taste if he did not place before the public and the other members of his profession some bogus diploma, which enables him to attach the prefix of Dr. to his name. Against American diplomas for Americans I have no word to say; notwithstanding the fact that many of them appear to be obtained after a very short residence, and it is to such which are ob-

tained after a very brief residence in America that I refer above, and attach the term bogus.

Medical students who study in the celebrated Continental schools, invariably are satisfied with their English diploma, and seek experience and not a diploma. Our dental friends might well follow so good an example. The M.D. London hardly seeks in Brussels another degree, yet that would be much the same as an L.D.S.Eng. going to America for the D.D.S. Those gentlemen who have been to America for experience, and have also received the diploma of that country, and who yet are content to be styled Mr. like the rest of their confrères, are to be admired; while those who use the title of Dr., either for their own personal aggrandisement, or for the more unjustifiable purpose of making the public consider them superior to the ordinary run of their brethren, are to be condemned. I repeat what I said in my paper, it is a slight upon his country, his school, and English dentistry, when a student seeks in America the qualification he should obtain here.

MORTON SMALE.

(*Dean of the Dental Hospital of London.*)

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—A letter by Dr. Charles Cunningham in your last issue is deserving of comment, not only on account of the interest which attaches to the subject of Dental Education, but also by reason of several somewhat remarkable statements which are offered for our digestion.

And, first of all, let me disclaim anything in the shape of *animus* against the course of study prescribed in the American Dental Schools, or against American diplomas as such. We recognise with much pleasure the great enterprise of our Transatlantic brethren in the matter of dental education, and the vast strides which the science of dentistry has made in their country. But what Mr. Smith Turner pointed out at the Dinner of the British Dental Association was this: that it was a matter of regret that students studying in London schools should turn away from the college which has done so much for our profession in this country, and seek their diploma elsewhere. Your correspondent takes umbrage at this, and evidently thinks that the wise man is he who studies in London and then crosses the ocean to seek his diploma. Now come some remarkable statements which will well repay a little analysis. Dr. Cunningham speaks of "foreign schools which have carried the practice of *special methods* to a high point of *perfection*." (The italics are my own). I should be glad to know, in common with many of your readers, where these marvellous schools are to be found, and in what department of dentistry these *special methods* which are carried to such *perfection* exist. One is almost tempted to read the words in parallel with the dental advertise-

ments which appear in the daily papers, wherein the Quack always has a *special method* which is peculiarly his own. The next paragraph is somewhat involved both in construction and meaning ; it runs as follows : " Those who have a taste for *investigation* and *research* will, no doubt, do well to strive for the *membership*, the *fellowship*, and the highest honours that *British* universities can confer ; whilst those whose tastes are of a more *practical* turn and who are desirous of becoming *complete masters* of the various processes and methods carried on in behalf of our art, will do well to *travel* and *study* in any *foreign school* that has made itself *remarkable* by carrying forward any *special method* to its *ultimate conclusion*."

This is evidently intended as advice to the English dental student, and if I understand the paragraph aright, it amounts to this :—If you are a *theoretical* man strive for the highest honours you can obtain in your own country, including (necessarily) the Dental Diploma of the College of Surgeons, and rest upon your laurels ; but if you are a *practical* man and desire to be a *complete master* of the details of dentistry you must study in a "foreign school that has made itself remarkable by carrying forward any special method to its ultimate conclusion." I know not whether Dr. Cunningham has himself passed through the London curriculum or not ; if not, then we may make considerable allowance for advice tendered in ignorance : if he has, he pays a slight—which is ill deserved—to the highest representative authority of the science of dentistry in this country,—and I take direct issue with him upon all points set forth. It would be invidious, as well as in bad taste, to compare the English and American curricula, or the intrinsic value of their respective diplomas ; but I would strongly maintain that the English student who conscientiously passes through his curriculum and takes the L.D.S.Eng., need not be afraid of being a *practical failure*, but rather possesses an experience and a qualification which are *second to none*, and which will enable him to practise with credit to himself and benefit to those who seek his aid. Far be it from me to say that he should not—if he think proper—*after* obtaining his English licence proceed to an American School, but let him remember that there is no qualification which he may obtain in addition which can be superior in any respect to the one he already possesses.

Do we sufficiently recognize the fact that such a thing as a *separate science* of American dentistry does not *exist* ? One would think not by the questions often asked us by our patients. Dr. Cunningham will forgive me when I say that there is more than a tinge of such a suggestion which may be easily read between the lines of his letter, and that the sooner he divests himself of it the better. The science of dentistry stands to-day, as do all the exact sciences, upon a platform which is at once broad and universal, built up by the world of thought and the wealth of literature ; but it is still pro-

gressive—it has no “special methods” which have been carried forward to their “ultimate conclusion”; and while it invites its devotees to do all that in them lies to advance its scope and usefulness, it still calls upon us to avoid its mutilation and to maintain its integrity.

I am, Sir,

Very faithfully yours,

E. LLOYD WILLIAMS.

London, *Nov. 1886.*

Impression Trays.

TO THE EDITOR OF THE “JOURNAL OF THE BRITISH DENTAL ASSOCIATION.”

MR. EDITOR,—Having tried in vain to get upper impression cups in Paris, that were sufficiently long at the back to embrace the tuberosities of the human jaw, I am told by the dealers that the manufacturers in Sheffield decline to change their models.

May I be allowed to suggest to your readers that the S. S. White Co., in Philadelphia is more progressive, and will generally make an effort to supply any real want?

Respectfully yours,

E. A. BOGUE.

Paris, *Oct. 13th, 1886.*

Reply to “Dens.”

TO THE EDITOR OF THE “JOURNAL OF THE BRITISH DENTAL ASSOCIATION.”

DEAR SIR,—In reply to “Dens” in the last Journal, asking for a means of restoring the grit of corundum wheels and discs, I would say that a small sponge or other vehicle saturated with alcohol should be used instead of water to moisten the disc while in motion. The alcohol “cuts” the shellac with which the particles of corundum are held in place, leaving the corundum points on the surface and restoring the grit.

Respectfully yours,

L. C. BRYAN.

Basel, Switzerland, *Oct 20th, 1886.*

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Bedford Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.

The Treasurer begs to call the attention of those Members who are still in arrear with their Subscriptions, to the following Bye-law:—

5. Any Member failing to pay his subscription before December 31st, shall cease to exercise the privileges of Membership, and if the subscription be not paid by December 31st of the next following year he shall cease to be a Member, and be ineligible for re-admission until all arrears due on ceasing to be a Member shall have been paid. A Member wishing to withdraw from the Association shall give a written notice to that effect to the Hon. Secretary before the 1st of January, on which his subscription becomes due.

All Correspondence for the Editor, Books for Review, and Exchange Journals, should be addressed to 11, Bedford Square, London, W.C.

THE JOURNAL

OF THE

BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

No. 12.

DECEMBER 15, 1886.

VOL. VII.

The Minutes of the Medical Council.

UNUSUAL interest attaches to the dental proceedings of the Medical Council at its last short session. Provision was made in a new standing order for the erasure, without prolonged discussion, of a qualification cancelled by the Medical Authority which granted it, and also for the removal of the name from the Dentists' Register if the cancelled qualification was the sole one standing to the name in the Register; provided only that the erasure by the authority has not been made on account of the conditions specified in section 13, paragraph 4, of the Dentists Act. The ground, hitherto liable to be much encumbered

by hair-splitting disputes on technicalities, is now cleared for prompt action in all future cases of a like kind.

The next dental business that came before the Council was the consideration of the so-called Maden case, the details of which will be found in a subsequent page. The vigorous manner in which this affair was handled by the solicitor, and the promptitude with which the issue was determined, shows quite clearly that the Council is fully prepared to vindicate the law as laid down in the Dentists Act in respect of correct registration, when sufficient evidence is produced of registration having been gained by misrepresentation. Taking into consideration that this is the first case of the kind brought under the notice of the Council, its successful treatment at the first hearing must be regarded as an indication of executive capability when firmly and rightly led by its legal adviser.

The principal and almost conclusive evidence was afforded by the public register of births. Then came in order of importance, the school register of attendances and the date of alleged apprenticeship. Whether there are other and, if so, how many other instances of the registration of mere lads as *bona fide* practitioners in the Dentists' Register, cannot be known by the Medical Council, or to the dental profession. Such cases, if they exist, can be recognised by personal acquaintances only, who alone are able to form a judgment as to age, and correct it by reference to the public Register for confirmation or refutation, as the case may be. As shown in the present instance, the register of births is a most important aid in correcting the Dentists' Register. Let us hope that cases similar to the foregoing are, however, of rare occurrence in its pages. Initial registrations are quite unavoidably liable to abuse. We have heard of a person getting on the Medical Register as having been in practice before 1815, whose birth preceded this date by a year or two only.

We further note in the Council's minutes the appointment of Mr. Marshall as a member of the Executive and of the Dental Committee. He is known to have taken a strong interest in the dental department of the College of Surgeons, and his interest will not be lessened by the extension of the field for its exercise. His acknowledged unbending support of fair play, his great capacity for mastering complex details, and his strong powers in conducting any matters he takes in hand in a clear and business-like way, will ensure to us all the attention dental questions may require at the hands of the Council.

We shall not go wrong in saying that the Council's late session has been highly advantageous to our profession, and forms a worthy termination to the many successes it has been our business to record as the fruits of efforts made for the advancement of the influence and interests of the dental profession in the expiring year, 1886.

The New Regulations at the College of Surgeons.

OWING to a slight but unavoidable delay in our November issue we were enabled to notice in the few lines that headed our Annotations an important item of news which had been forwarded to us by the dean of the Dental Hospital of London; we were obliged to postpone any further notice of the matter to this number. We now propose to briefly detail to our readers the exact nature of the concession which the authorities at the College of Surgeons have made, and also to point out in what manner it will affect dental students in the future.

It was resolved at a meeting held on the 11th November, on the recommendation of the Dental Board, that in future candidates for the diploma of Licentiate in Dental Surgery should be permitted to take out eighteen months of their

three years' instruction in mechanical dentistry *before* the date of their registration as students.

This regulation will affect candidates in various ways, which it will be as well to enumerate.

Firstly, those who have done a part or all of their mechanical work previous to passing the preliminary examination will, in future, be allowed to count eighteen months of such work and will not be obliged, as heretofore, to repeat the whole three years.

Secondly, those who have passed the preliminary in the middle of their apprenticeship will, in future, be allowed to count the whole of the apprenticeship.

Thirdly, those who intend to take the M.R.C.S., L.R.C.P., and L.D.S. diplomas will be able to combine their mechanical work with their studies for the first professional examination, if need be, before passing the preliminary examination.

Fourthly, the new regulation does not alter in any way the clause in the schedule which requires four years spent in the acquisition of professional knowledge, this period being still required from the date of registration before the candidate can present himself for the L.D.S. examination.

Fifthly and lastly, in the event of failure at the preliminary examination the apprenticeship can still go on while the candidate is preparing for re-examination.

We are assured by an undoubted authority that this regulation will prove a great boon to the student of dental surgery. We know that there has for a long time been a strong feeling abroad that some such regulation should be passed, and as we cannot doubt the sincerity or the ability on the part of our informant to judge of the interests and welfare of our students, we may take it for granted that the change which he views with such unqualified satisfaction will be hailed with delight by the student community at large.

It is to be hoped that among other beneficial effects of the change we shall find that the instruction in mechanical dentistry will be more thorough in so much as it may be commenced earlier. Mechanical dentistry is an essential element in the education that is to fit our young men to render the most effectual services to their patients, it cannot be dispensed with, and when the teaching is perfunctory and formal the student learns to regret the fact once, and that is for all his life. Anything, therefore, which tends to throw facilities in the way of a thorough and practical acquaintance with the technical details of this great branch of our science must end in producing a more capable and useful generation of dental surgeons, and the public as well as the profession will have every reason to be grateful to the College of Surgeons for their new rule, and to those by whose advice and urgent representation the rule has been made law

ASSOCIATION INTELLIGENCE.

• Meeting of the Representative Board.

A REPRESENTATIVE Board Meeting was held on Saturday, December 4th, at Leicester Square, J. S. TURNER, Esq., Vice-President, in the chair.

There were present Messrs. W. H. Coffin, S. J. Hutchinson, J. H. Mummery, Jas. Parkinson, G. W. Parkinson, Morton Smale, Storer Bennett, T. Charters White, A. J. Woodhouse and F. Canton, Hon. Sec. (London.) Messrs. G. Cunningham (Cambridge), J. Dennant (Brighton), T. E. King (York), and W. H. Waite (Liverpool).

The usual routine business was transacted. The TREASURER reported that the balance at the bank was £168 10s., and that forty-six members were in arrear with their subscriptions for one year, and fourteen for two years.

Messrs. Rait & Kearton were re-appointed auditors.

Several nomination papers were read before the Meeting, but were held over for election until commencement of the new year.

Sir Edwin Saunders presented to the Representative Board a photograph of his Garden Party held at Fairlawn, in August last.

A vote of condolence was passed to Mrs. Mahonie, on the death of her husband.

Several cases of alleged infringement of the Dentists Act were stated to be under the consideration of the Business Committee, and others to have been terminated through correspondence with the Hon. Secretary.

The result of Maden's case was reported to the Board.

A communication from Mr. Macleod, of Edinburgh was read.

The Annual General Meeting.

(Concluded from page 653.)

Mr. J. SMITH TURNER in the chair.

THE CHAIRMAN: I do not presume that we shall be able to finish the discussion of this paper to night; therefore I shall not ask any of our members to rise until we have heard an expression of opinion from some gentlemen here who, I think, might be able to say something on the other side. We have here Deputy Surgeon-General Donne who may probably endorse all that Dr. Cunningham has said, or he may tell us there is more done for the soldier than we imagine. I am sure if he will help us in the matter we shall be glad to listen to him.

DEPUTY SURGEON-GENERAL DONNE: As you have been kind enough to name me I rise with very great pleasure to say a very few words in answer to the interesting and exceedingly able paper by my friend Dr. Cunningham. I must say I rise rather with fear and trembling, because I am afraid I must to a certain extent take the blame of Appendix 24, for it fell to my lot to be the editor, compiler, and in many cases the author of recent additions to the Army Medical Regulations. Some responsibility rested however with the instrumental branch. My more particular business was with regard to other branches of equipment. I may say that experience is the great test by which we ought to go, and the limited equipment that we have in Appendix 24 has stood the test of many years, and I for one do not feel inclined to interfere with it. However, had I known Dr. Cunningham two years

ago, I have not the slightest doubt that I might have been able to introduce the mirror, probe, and tweezers. With regard to the amalgam, gold leaf, &c., these are very easily replaced. We have stores here, there, and everywhere, by which such things can be readily replaced, and as our great object in the Service is to have everything as light, simple, and economical as we can, we never issue large quantities of anything. It is perfectly clear to me that Dr. Cunningham has never made the acquaintance of a very stern official the Chancellor of the Exchequer, or he would know that the Medical Department is very heavily handicapped by the authorities. I cannot admit that our equipment is of a meagre and unsatisfactory kind, because I am satisfied that it is of the largest and most satisfactory kind, and in revising and extending that equipment we had every assistance from the official authorities.* With regard to the education and instruction of army medical officers in dentistry, I think it would be of the very greatest service if we could have some system by which at Netley a certain amount of operative dentistry were taught. It is quite clear we can never attempt the mechanical part. I have heard to-night that it takes three years to get even the most imperfect insight into mechanical dentistry; therefore I am afraid that we can never engraft that specialism on the medical education of the already overburdened medical officer. We have now to be admirable Crichtons; we have to understand military law, drill, and equipment to an extent that you little dream of; to such an extent in fact that a friend of mine said to me after the enormous equipment tables were drawn out, "I think you could almost keep an hotel now, you have so much to do with forks, and spoons, &c." We must in the army try to get our officer to know as much as possible about his profession at large, and I am perfectly certain of this, that we know quite as much, if not a little more than the general practitioner on most subjects. We have not only soldiers under our care, but women and children. I myself had charge of a female hospital at one of the stations for some time. Therefore it is necessary to be an expert at midwifery as well as dentistry. With regard to using the tooth key, I acquired

* Dr. Cunningham has only characterised the most essential part of the *dental* equipment, not the general equipment, of the department as meagre and unsatisfactory; and has pointed out that the inadequacy of the dental equipment is due to the absence of any dental expert among the official authorities.

that art when I was a pupil a good many years ago, and I think I could give a lesson to Dr. Cunningham in the use of the key. I have had a tooth pulled out by forceps, and a tooth pulled out by a key, and I prefer the key, though both are abominable. I am now engaged in passing recruits at St. George's Barracks, and Dr. Cunningham has been there, and he will acknowledge that if we were exceedingly strict on the question of teeth we might dispense with the examination altogether. I have passed hundreds of thousands of recruits, and in the country one meets with much better teeth than in London. This is probably connected with the digestive organs. I have found that large tonsils, bad teeth and diseased gums all go together. I will not detain you longer than to say that I fully endorse many points in Dr. Cunningham's able paper, and that I would like to see our equipment extended as far as can be, and as far as that functionary the Chancellor of the Exchequer will permit.

SURGEON-MAJOR BEATTIE : I have talked with Dr. Cunningham on this question, and have listened to his address with great interest. The result of what I have heard to day is really to show that all doctors should be dentists and all dentists doctors, so far as it can be carried out. There is a difficulty in it as there is in everything. I can see no way out of it except by encouraging men to get a dental education before they go into the army. That of course means expense. Dentistry seems to have suddenly risen up during the last few years. I never thought much about dentistry before I went out, but I have had a tooth pulled out by an army surgeon, and have been very well satisfied. But coming home here we see all sorts of things. I had never before seen so bad a case as Dr. Cunningham showed me. It is a subject worth attending to, and as a temporary stop-gap some educational process at Netley would be of real service. The real cure, however, is that all doctors should be dentists, and all dentists doctors.

The CHAIRMAN : I think I remember Mr. Spence Bate saying something about the examination of the teeth for the Navy, and the very remarkable way in which it was carried out.

Mr. SPENCE BATE : The Navy has not been allowed to do much to-day. What I suggest is that if the State makes it an important matter that men on coming into the service should have good teeth, it is but right that it should have those in the service who are capable of watching over and taking care of the teeth afterwards. I have had a great deal of conversation with

naval medical men at Plymouth, and they support my opinion strongly, and urged it as much as they are able, with only one exception, and in this case it was argued that they had received no teaching, and did not wish to have anything to do with it. My plan is that the L.D.S. degree should be made a qualification for surgeons who obtain Army or Navy appointments. There is no midwifery wanted in the Navy; but they take that diploma. It seems desirable, however, that for the future the College of Surgeons curriculum for State purposes should include the L.D.S. as a qualification. With regard to payment, if there be a duty to be performed, that duty must be done. If there are not enough surgeons the number must be increased. We know very well that many teeth are prevented from decaying simply by the removal of others, and the fact is, that while boys are refused who have lost five teeth, a larger number may with judgment be removed with benefit.

I do not think it necessary to provide the army or navy surgeon with such an apparatus as we use now for fine stopping and contour work; but I do think a great deal of good would be done if State surgeons knew when and how to treat the teeth. A friend who has recently returned from Suakim, suffered a great deal from neuralgia, but was unable to obtain the desired relief from the doctor.

THE CHAIRMAN: Dr. Cunningham has alluded in his paper frequently to the dental profession in the American army; we have Dr. Arkovy here who comes from a country of a much more military character than America. Probably he will tell us something about the provision for dentistry in the Hungarian army.

Dr. ARKOVY: Dr. Cunningham, when preparing his paper, asked me what were the arrangements in Austria or Hungary as to appointments of dentists in the army. I am sorry to say there are none. I may tell you an interesting thing in connection with the paper which has just been read. I am a lecturer at the University at Buda-Pesth in Hungary, and though dental surgery is not compulsory, still, every year I have from 160 to 180 medical students attending my course who go up for the M.D. There is no other diploma than that of Doctor of Medicine. Perhaps all the students, with the exception of only 15 or 20 per cent. attend the lectures on dental surgery, and besides that, I notice that medical men who have attained a certain rank in the army come afterwards for tuition in dental surgery. One gentleman said that every

doctor should be a dental surgeon, and every dental surgeon should be a doctor; and in my opinion those who come just to learn something about dental surgery, and to gain an idea as to what it is, are likely to do more good than if they knew nothing at all about it. Some of them learn enough to make a temporary filling, and that knowledge may be useful for the patient.

The discussion was then adjourned at the suggestion of the Chairman until the following Saturday, when it was resumed.

Mr. J. SMITH TURNER took the chair, and having explained the unavoidable absence of Sir Edwin Saunders, called upon Dr. Cunningham to give a resume of his paper, which he accordingly did, expressing, at the same time, a hope that the tendency of the discussion would be to give practical effect to his paper, and urging that though it might involve some present outlay the ultimate result of his plans, if adopted, would be economy. At the close of his remarks Dr. Cunningham asked for an approving resolution, and suggested the advisability of appointing a committee to wait upon the proper State officials and urge the case. He further pointed out that it was open to all to exert themselves individually by petitioning their own members of Parliament.

Mr. H. G. READ thought Dr. Cunningham's first plan might be amalgamated with his fourth plan, and expressed his approval of the suggested deputation.

Mr. W. M. FISHER: Mr. Chairman and gentlemen, in the paper which I purpose reading this morning, I have touched very slightly on the Army Medical Department, simply because I knew that Mr. Gaddes had written a paper on it before, and that Dr. Cunningham was working at it for this meeting. I thoroughly approve of having attention given to the teeth of recruits, probably before joining the army, or a certain standard being inaugurated, something like what the Admiralty has at present, only on a more extended scale. At present I do not know whether it is well to hamper the medical men appointed to the army with more work, which necessitates special training. I should rather have a few of our own dental men put into the Army medical service, say from five to ten per cent. if required, and as we have fifteen or sixteen medical districts in the country, these might be residential or movable appointments.

Mr. DENNANT thought it would be an advantage to hear Mr. Fisher's paper at once, and then discuss both.

THE CHAIRMAN explained that it was in accordance with the

expressed wish of both authors that the present course had been adopted.

Mr. BROWNE MASON : My opinion, gathered from residence in a garrison town, is that the authorities are recognising the necessity of moving in the direction indicated by Dr. Cunningham's paper. I think that the Commanding Officer of the 34th Brigade Depot in Exeter, is a subscriber to our Dental Hospital, mainly that he may be enabled to give the means to the men of the detachments stationed there of getting attention paid to their mouths. We frequently get at the Dental Hospital men from both barracks. Dr. Cunningham has asked me whether we get any contribution from the State. Certainly we do not ; but Colonel Freemantle is a subscriber, and I rather think the Commanding Officer at the present moment of the Royal Horse Artillery is also a subscriber, mainly, I think, with a view of enabling the men to partake in the benefits conferred by the Hospital. I have mentioned this merely to show that I think it points to the fact that if an influential committee could be formed, it might possibly be useful.

Mr. DENNANT : Dr. Cunningham has done, I think, good service in bringing this paper before us. It appears to me that Dr. Cunningham has rather tried to put in the thick end of the wedge. The thin end consists in the education of the public pure and simple by this Association. I take it that one of the great purposes of this Association will be the education of the public, the official public and the general public. With regard to the question of the extension of hospital arrangements for the army, we are hampered and bound on every side, simply because the public know nothing about it, and care less. It appears to me that the funds of the Association might be very well utilised in disseminating literature of a suitable character, which shall emanate not from any private individual, but from this Association, with its imprimatur upon it, such literature as we might scatter amongst our own patients, and might be sent to the governors of hospitals and medical institutions, and to the different Departments of State. It would involve a series of subjects and different modes of treatment, but I cannot imagine that any great good could come of it, unless a select committee of us took into consideration the best means of meeting the case. I think we can hardly do anything in the way of extension of hospitals without it. How are we met when we talk about dealing with the needs of the poor by hospital arrangements?

Simply by the fact that the public suppose we can give dental aid as medical men give medical aid in hospitals. That appears to me to be perfectly impossible. A physician sits at a table, and can dispose of perhaps 30 patients in an hour. But what can a dentist do? How can numbers be dealt with unless the young men of the profession are employed and paid? It appears to me that every considerable institution such as a County Hospital should have not only its House Surgeon, but its House Dental Surgeon, whose services should be paid for, and not only one or two, but in large towns half a dozen in the dental profession should give their attention to the Dental Department. That cannot be done until the public are prepared for it. We, as individuals, can do so little in the way of influencing the public mind, that it appears to me it would be of the highest advantage if the Association could take this work in hand. It must be done by degrees. It requires careful thinking over. If some four or five gentlemen could be established as a committee for such a purpose, it would meet with the approval of the profession throughout the country.

Mr. BLANDY: I should like to ask if I gathered aright from Dr. Cunningham's summary that he sought to establish a paid dental officer in connection with the Army, or an honorary officer?

Dr. CUNNINGHAM: In my paper I ask for paid appointments. It is the basis of the whole paper. There is nothing honorary about it. I claim that it shall be on the same basis and scale of fees as medical men. I believe there is a great amount of harm done both in the medical and the dental world, by the multiplication of honorary officers.

Mr. BLANDY: Mr. Dennant was speaking of increased attendance of honorary officers at public hospitals, in order to give opportunities of seeking the dental aid which Dr. Cunningham would give by paid dental officers.

Mr. DENNANT: I was not referring to the military aspect of the question in that connection. I was merely pointing to the difficulty of dealing with large numbers of the poor.

Mr. CORNELIUS WHEELER: I am very glad that this subject has been brought before the Association, because I am sure it is one of great importance. Living in a garrison town, I constantly come across Army Medical men, and it is deplorable to see the want of knowledge that exists with regard to dental matters, among medi-

cal men attached to the Army. An Army medical man of my acquaintance had expressed himself as benefiting from even the little knowledge that could be picked up during a few months' sojourn at my house. Many Army surgeons wished to obtain the knowledge, but the difficulty would be how to do so, especially considering the time required for stopping teeth. When you come to the stopping of teeth, it is a thing that takes so long, that I think there will be great difficulty about it.

Dr. HAZELDINE: Mr. Chairman and gentlemen, if my own feelings were consulted, I would rather remain silent, because I feel a sort of want of composure when I rise on my feet to speak. On the first blush of this question I thought it would be a difficult one to settle with the Army Surgeons personally, and for this reason. When the Army Surgeon completes his education at Netley, before he enters the Army, I do not think he would be altogether pleased at having another incubus put round his neck, and after his morning duties have to go round the wards and begin to stop teeth for the soldiers' wives and children. I have not the slightest doubt that some of them might be quite prepared to go and examine their mouths, and consign them to dentists proper; but as to following in the wake of the professional dentist, as far as I know the members of the profession would not have anything to do with it. I gathered that one gentleman present said that very few men could devote time to stopping teeth in hospitals, and follow the ordinary work of the profession. For my own part, I could not stay two or three hours in a hospital to stop teeth, whether I was paid or not paid; and an Army Surgeon, after going round the wards of the hospital in the morning, would be very sorry to have to go into another ward to pay attention to the teeth of a soldier or his wife.

THE CHAIRMAN: We are very much indebted to Dr. Cunningham for bringing this subject forward. He has gone over a large field, and procured for us some very useful information. Dr. Hazledine's remarks seems to be confined to the likes and dislikes of Army Surgeons, and to possibilities. There are many things that seem impossible that become possible under organisation, and as to the likes and dislikes of the Army Surgeon, I am afraid we cannot very well take up the question from that point of view. Most people dislike changes that come from without, but most changes have to come from without, and they are rarely made without incurring the disapprobation of somebody. It is not a

question of the likes or dislikes of Army Surgeons: it is a question of what is to be done for the teeth of those whose services are valuable to the country; and if under the exigencies of the public service it should entail a little more work on the Army Surgeon I do not think it would be of a very onerous character, and the fact of their being able to do it would be a source of satisfaction and comfort to themselves, for at present they are obliged to back out of it in a most undignified manner. I think Dr. Cunningham has clearly shown the necessity for some attention to the teeth of public servants by referring to the condition of recruits, and that is really the part on which we will have to take action in the first instance it seems to me. I fear that permanent attention to civil servants, or to members of the Army, or even to their wives and children, would be a matter of some difficulty. With regard to civil servants, you cannot order them as you can military servants, but it would be a very difficult thing to have a tooth parade. You can have a parade at which rifles and accoutrements can be examined, but a tooth parade to examine the teeth of a company consisting of fifty men would be a very arduous occupation to impose on Army Surgeons as Dr Hazeldine has just said. Still, as the Short Service system is in vogue now, it seems to me, to begin with at any rate, a method of inspection, as Dr. Cunningham has suggested, by a dental surgeon, should be adopted in reference to recruits, just as he says the plan is beginning to be adopted in the Navy. As to the method of instructing Army Surgeons in some of the minor operations in dentistry, which would be useful to them and to the service in which they are engaged, especially when on foreign service, it seems to me that the earlier they receive the instruction the better, because the younger a person is the more amenable he is to being taught, the more amenable to being spoken to. If you have to give instructions quickly and effectually you cannot always do so with that kind of deference to age which you ought to pay. You do not require to speak with that deference when you give directions to younger persons. Then there would be another advantage in having the instruction given as early as possible. I am speaking my own views: I am not dictating in any way. The young men might have opportunities of testing their knowledge, and if they had any ambition that way they would certainly find many opportunities of testing their knowledge and ability to practise the science, or part of the science in which they had been instructed.

So that for my own part I should like to see the instruction given before the Army Medical Officer reached Netley at all. The question of appointing centres in regimental districts in which the soldiers could be examined, is one that I think requires a considerable amount of knowledge of military organisation and military habits before we can reach any point on which we could at all express a sound opinion. I think that although the Army shows ostensibly some recognition of the need of dental attention, by providing a case of instruments for 400 or 500 miles of country, it would be well if it could be impressed upon those who have the arrangement of soldiers' kit, that a tooth brush is a very cheap luxury. I suppose every soldier could be provided with a tooth brush at the expense of two pence or two pence half-penny per head, and that tooth brush would last quite as long as the other brushes in his kit, and perhaps a little longer. They have always good dentifrice at hand in the shape of soap. If the Army Surgeon or whoever has the arrangement of the soldiers' kit, could be induced to enforce this he would do a great deal towards prolonging a sound condition of the teeth, which ought to be insisted on before the recruit is allowed to join the ranks. Some gentleman has spoken of the impediments continually thrown in the way of any reform of the kind. That is all right and natural. In my time I have had a little to do with trying to promote reforms of various kinds, and I think that the reform that is promoted without opposition is not generally very valuable. The reform that is valuable is generally one that has to be pushed and worked at for a long time. As to the rebuffs you get from officials, you must not pay much attention to them. You will find the officials themselves very gentlemanly, kind, and sympathetic, but there is a system of getting through work in the offices, which seems to us very summary, but which really to a great extent has the effect of stopping all reforms of a trivial or vexatious character, though not real reforms that are worthy the attention of the officials and the public generally. They have a couple of india rubber stamps which they use for communications, and they stamp "Yes" on one, and "No" on another. The one with "Yes" is to receive a certain amount of modified attention, and the other means, your communication is received, and it has been duly put before the authorities, or something of that kind. If those who apply get that form first, but continue to apply they will get the second, "Yes," and then it will be listened to. I think it is a very good

plan for testing the sincerity of those who wish to promote reforms. With regard to the action which we should take, Dr. Cunningham has spoken about a committee. I have not much faith in committees myself. I think if anything of the kind is to be done it may be done in the name of the Association by working the thing up into good shape. This working up may be done by Dr. Cunningham associating himself with one or two others who are equally anxious to promote this work. I think he might do that with the countenance and support of the Association. I doubt how far it would be well to form any deputation to wait on any of the authorities,—not because I want to shelve the thing,—I am rather in hopes that it will be brought to maturity,—but because it has not yet been brought to maturity we must be careful how we move. If we look back we see that the first decided intimation of this movement was from Mr. Gaddes five years ago; then we had last year Mr. Fisher's paper. That has been taken notice of in various ways in the public press, and sometime after the paper was read I saw remarks about it in the press. That gives a little gleam of hope that we are beginning to get that notice from the public which we deserve. If this movement can be pushed on in the same way, and if the Association is induced to make a grant to meet necessary expenses,—because we cannot expect Dr. Cunningham to publish so extensive a pamphlet as his and publish it gratis,—I think we would be helping him and helping ourselves at the same time. How that is to be done must I think be a matter for after-thought, not by the Association but really by Dr. Cunningham and a friend or two. The audience here this morning, although tolerably numerous, is not so large and not so composed of many of our representative men that its decision would be sufficiently valuable. I think you will agree with me in that. We want some men here this morning who are absent, and I regret that the position we are in now was not arrived at yesterday. With these remarks I think we may ask Dr. Cunningham to reply to anything that he thinks requires a reply, and to state how far he considers the suggestions that have been made will be sufficient to meet his purpose.

Dr. CUNNINGHAM: I thank you very much for the discussion that has taken place. I should like to make a few remarks because on some points you have criticised my paper where it did not want any criticism. Dr. Hazeldine spoke about adding to the army medical man's work. In my paper you will find I allude to that,

and I know perfectly well the condition that he is in. I had to make myself a thorough master of the regulations of the Army Medical Department before I could tackle this question at all. That is why I ask you to support me. Mr. Gaddes read his most valuable paper before a most important body, the International Medical Congress, but it was buried in the transactions, and I claim to myself the credit of unearthing that corpse and I hope making it into a live factor. With regard to taking up this question of the Army Medical Department, I do not ask the medical men to go in for filling soldiers' teeth, but they should have the knowledge which would enable them to say when the soldiers' teeth require filling and treatment, and they should know where to send them, and have the means of temporarily relieving the pain. That should not be confined to the army medical man alone, but to every medical practitioner. The more they know about dentistry the better they will appreciate your efforts, and the more they will resort to them for the benefit of the patients. I made a *reductio ad absurdum* of the Tooth Stopping Case, with its regulations of its being shifted about from one part of a military district to another. The medical officer in the Isle of Man should be able to relieve the soldier of toothache, and when he comes to a military district let him go to the Dental Department of the Military Hospital, which ought to be under the care of a specialist. An efficient way to appeal to the army medical man is to say if he takes extra duty he must get extra pay. I have quoted in my paper that where the army medical officer is induced to do extra duty he gets extra pay, and any investment in that way you will find as taxpayers will get its reward. Mr. Fisher is in favour of army dentists, but I want to point out the difference between us. It shows the two lines on which two men with the same conviction, and I hope enthusiasm, approach a question. He says army dentists; I say army surgeons with a dental knowledge. Mr. Fisher is possibly not familiar with the detailed arrangement of the Army Service Corps. From my own knowledge of it, I do not think it would be a becoming position for a dental surgeon to be attached to such a department. My notion is more practical. It is the thin end of the wedge, and Mr. Fisher's is the thicker end. So with regard to the observations by our friend Mr. Dennant. Is it not a good deal thicker end to try and influence the whole public of this country, than to appeal to those who already possess such a knowledge of all that

appertains to medical science that they should surely be better able than the general public to appreciate and to act upon any new presentment of the importance of dentistry as a part of medical science? When you do that you are using a powerful lever in the cause you advocate. I claim that I have got the thin end of the wedge. Our friend Dr. Donne seemed to take upon himself the responsibility of having provided the tooth stopping case. It existed long before Dr. Donne tackled the question of the Regulations, and for which he deserves a great deal of credit. It says a great deal for us that we have been able to interest him in this dental question, because he is the formulator of these Army Medical Regulations. That book is one of the best books published by the Government, and I should like to see a similar work published by the Admiralty. It is a duty I think the Department owes to the taxpayer. He spoke about the Exchequer. That is for you, gentlemen, and not only for members of the Association, but for those outside. He then referred to operative dentistry and thought that was all they could do. That is all I claim. I never thought for a moment of advocating any mechanical education, but I do say that if he were an L.D.S. he would, from his mechanical training, be better able to do what the surgeon does not do at present,—to deal with fractures of the jaw, and gunshot wounds in the mouth. I think I may safely pass over all the other remarks until I come to those by our Chairman. I claim those remarks which came from the chair as one of the most valuable contributions towards the subject which we have been discussing. He suggests that certain work should be done, and I should heartily ask him to join himself to those who are working for it. He may leave it to the younger men to do the hard work. I would ask for volunteers to come and help us. We want more statistics. You will find tables in my book which mean a month's hard work summoned up perhaps in six lines, but they are the most valuable part of the paper. I can suggest lines of original research so far as State dentistry is concerned, for others who want to work; but it is better to have organisation in your work than individual action all over the field. Therefore I ask you to organise under an able general—our Chairman. He talks about a tooth parade as an arduous business. I do not think so. I have had several tooth parades, and I have made a systematic and close inspection of the recruits without exciting any dissatisfaction on their part. If I had been talking as a dental practitioner

alone, I should have expressed myself more strongly in my paper. For instance, if I say a certain percentage of teeth are beyond conservative treatment, I mean they are beyond the treatment they may expect to get in the Army Medical Department. I could have saved many of the teeth myself, but it would take too long. I have endeavoured to look at this question as if I were already within the Department and proposing feasible reforms,—reforms that are much easier than one would imagine from the outside. I certainly would like to endorse the Chairman's views as to early training. I may draw an illustration for a moment from the difference between the idealist and the utilitarian. Compulsory dental training for each medical man would be advisable, and one could write a good paper on the subject, in fact, I have spoken of it myself in a different quarter; but it is utopian, to expect that at present. I think the best thing for which to work, and the best way to arrive at it, is the utilitarian suggestion that all Army Medical officers should be educated in the treatment of dental disease. That would be the first means of bringing about the utopian idea. You will take it for granted that I have worked all through the Army Medical Regulations, and that that was the basis of my whole paper. The first thing I had to do was to make myself a complete master of those Regulations, and some army men have told me they think I know more about them than they do. I discovered Appendix 24 for many of them; I was the means of their seeing it for the first time. With regard to barrack hygiene, you will be glad to know that my suggestion has been actually carried out, and that from my individual action certain army medical men have been so struck with the excellence of our case that they have embodied it in the hygiene, and a tooth brush is recommended as an essential part of the soldiers' kit. But what is more important is that he should use it, and the time when he should use it is after the last meal at night. I ask you to adopt our Chairman's suggestion and to give us by a resolution the power to do further work, and to report to you next year. I think it would help us if we had a resolution somewhat in this form,—but I leave it to the discretion of the Chairman—"That wherever the State provides medical services, dental services should be provided for, as an essential part of such medical provision." That is an endeavour in a few general words to gather up the complete scope of the paper, which I hope you will take an opportunity of perusing quietly at home. I hope you will care-

fully read the appendices. As I said before, I would also ask you to help me by bringing the matter before each individual member of Parliament with whom you are acquainted. I have got help, and what I have done others can do. You cannot, perhaps, leave your practice and make extensive investigations, but it is easy to write a letter to an M.P., and if you think you can do so, you may try and get influence with the editors of newspapers. With the approval of the Chairman I think any paper of this kind should be carefully edited under the care of some bureau,—call it what you will,—rather than by any individual. I place myself freely and entirely in the hands of the Association. I am not talking as an enthusiast; I want to talk as a practical, common-sense man of the world. I am convinced the time is arrived to secure that at which we are aiming if you will only help in the work.

Dr. CUNNINGHAM: Because I have not called attention to certain things, it does not follow that I do not know of them; but there are so many details that I should keep you here for a week if I mentioned them all. I know that the State now very frequently resorts to the civil practitioner, but I do not want him to be resorted to in an underground way. I know military and naval officers occasionally send men out to the civil practitioner; but I claim for the civil dental practitioner to be recognised in the same way as the State recognises the civil medical practitioner. I call upon you to demand the right to have legal recognition, the same as they have; but you won't get that right unless you demand it. We get plenty of cold water thrown upon us in making these investigations; but I ask your hearty co-operation to carry this out. Each of you can do a great deal individually, if you only help. I would appeal to you to show any interest you may have in our investigations, by doing a little in your own way, and I should be very glad if we could enlist any volunteers from the other side of the Channel.

The CHAIRMAN: As I said before, the support which we can give to Dr. Cunningham is not of the character that one would like to give him. Some of the gentlemen are away who would be invaluable to us under such circumstances, so that I hope that any resolution we pass now will be looked upon rather as provisional than otherwise, and that we may be able to pass a much stronger resolution some other time. The following resolution seems to meet with Dr. Cunningham's approval:—"That this meeting is of opinion that some practical scheme should be devised which

would provide a combination of dental with medical skill, for all departments of the public service."

Mr. BROWN-MASON: I have much pleasure in proposing that resolution.

Mr. PARKINSON seconded the motion, which was carried unanimously.

The CHAIRMAN: I hope, gentlemen, that you will wait a little longer, and hear something that may confirm us in the resolution which we have already passed. I expect Mr. Fisher will enlighten us on many points in his paper.

Mr. FISHER: I was struck by one remark from our Chairman this morning—that all reforms came from without. What drew my attention to the subject of my paper was a remark from the Secretary of our local training ship, "The Mars," in one of his annual reports, which mentioned that the boys were rejected for the loss of one or two teeth, when they came to join the Naval Service. I must also mention, when I spoke to the Secretary of the ship, he also drew my attention to the women of our town who came to draw the sailors' half-pay at his office, where he officiates as Secretary to the Mercantile Marine Departments. He said he had never been so much struck in his life by the lack of teeth in the people as since he had occupied that office. I was altogether indebted to him for drawing me into this subject. He laid my paper last year before the Board of Trade, the Admiralty, the Home and War Office Department. He received an unofficial reply from Mr. Thomas Grey, the Secretary to the Board of Trade, thanking him for taking an interest in this, and hoping that he would continue to do so. That has virtually kept me going on the subject, and I have been greatly gratified at the attention I have seen given to it during the past year by individual members of our Association.

Mr. FISHER then read his paper on "Compulsory Attention to the Teeth of School Children (the Army and Navy)," which appeared at p. 714 of our last issue.

Mr. ARTHUR UNDERWOOD: I do not wish to offer any long observations upon the subject, but to make a very short criticism, which is somewhat trivial, and in addition to that to say a word about the excellence of the paper, and about possibly the best way in which the subject may be ventilated. There is a statement made by Mr. Fisher about the effects of the inhalation of bacteria reaching the lung cells and causing septic disease. I think I may

relieve his mind of any fears on that subject. I do not believe that it is at all a likely complication. It was this very consideration which first directed the attention of Professor Lister to the subject of bacteriology, and many observations convinced him that the ciliated epithelium that lines the air passages, is a sufficient protection against the entrance of bacteria, unless it is suffering from disease. Neither do I think there would be any damage to the digestion from swallowing a small amount of pus extended over a great many years. But these are trivial criticisms, because the evils against which Mr. Fisher warns us are so enormous, that it would not much matter if a few more were added to the list. The evils children suffer from deficient mastication are sufficiently known already. One thing I feel bound to say, owing to my peculiar position as sub-editor of the Journal, and that is, that I think I may promise in the name of the Publication Committee—if I am making too bold I shall be called to order by the Chairman—that we shall do our utmost to bring the paper before the public, and devote leaders and annotations, and every other means at our disposal to the furtherance of Mr. Fisher's projects. They are so excellent in themselves, that I think he need not fear much opposition, except that healthy opposition to which the chairman has already alluded. But I think it will not be much use if all the printed notice of the matter is confined to the narrow limits of the Journal. We are all pretty well convinced of the necessity of the reforms in some form or other. It is the public outside that need to be convinced. Therefore I make another promise, and that is that I should like to use my own utmost endeavours to bring the subject into other publications not strictly professional. We are already beginning to attract the notice of the public press with regard to the troubles of our young people, and I think the time is not far distant, when Mr. Fisher will find his name in other papers besides those that are confined to dental topics. I cannot sit down without congratulating Mr. Fisher upon the enormous amount of attention the subject has received, considering the short period since he first ventilated it. It is not much more than a year ago since he read his first paper, and since then the dental world has rung with the subject. We have had papers from Mr. Spence Bate, Dr. Cunningham, and others. Therefore, I think Mr. Fisher is to be congratulated on having done a very great deal in a short space of time.

Mr. MOORE: It strikes me that in the provinces our dental hospitals are not sufficiently known to the public. If they were better known I think a great many of these cases would be sent to the hospitals.

Mr. BLANDY: I should like to join in heartily thanking Mr. Fisher for the very great care and ability with which he has produced this paper. It is a very practical paper, and I hope it will bear very much fruit. I join also in thanking Mr. Underwood for his remarks, in which he said he thought we ought to go further a-field to circulate it; in fact, when Mr. Fisher was reading the paper, it was crossing my mind that this paper was not one that ought merely to be brought out in our Journal and buried in the Transactions, but it ought to be printed in pamphlet form and sold at a cheap rate, and distributed to the school boards and authorities of workhouses and orphanages throughout the country. If it were printed in some cheap form, no doubt the dentists in the different towns would buy a few and circulate them among their local schools. We have nothing of the sort in our Nottingham Board Schools. We have a population of something like 230,000, and many thousand children who go without any inspection whatever. I think our own School Board is an enlightened one, and might be disposed to take it up. The difficulty that seems to me to arise is how far we could get dentists to join in giving this inspection—whether they would be disposed to leave their own consulting rooms and practice to go among a lot of workhouse children, and other poor children, who are always more difficult to teach than the children of the wealthier classes. They are awkward little beggars to manage at the best of time, and the poorer the people, the less they seem to appreciate our work, and the more difficult they are to deal with. I do not know how that will be got over. Our School Board expenses are very heavy, throughout the country the Education Rate is running up, and I do not see how we could get them to offer a remunerative salary, and I think some of us must be prepared to make a considerable sacrifice in that way. The paper referred to the care of the teeth of sailors enforced by Government. The Government seems to have recognised the importance of the teeth, by turning away young sailors if their teeth be deficient. I think that is one step in advance, but the Government does not provide a dentist to take care of the teeth. It rather throws upon a sailor the onus of going to a dentist to get his teeth put in, and to pay for it out

of his own wages. The lecturer seeks to throw upon the Government the onus of providing due and efficient dental care at no cost to the sailor. I do not see that that ought to be a very great difficulty with the Government, and I hope this paper may be joined with Dr. Cunningham's paper. They seem to drive at the same thing, and the small committee wished for by Dr. Cunningham might take the two things in hand. Both of them seem very important, and I am sure this Association will do very wisely in lending all its aid, and that of its Journal and journalists, to enforce them. I hope that the members when they go back to their homes, will see that this matter is not quietly dropped, but is kept alive.

Dr. CUNNINGHAM: There are two or three principles which I should like to emphasize with regard to Mr. Fisher's paper. First of all, I would say this, that some time ago, when I was in America, I was called upon to act in such a capacity as Mr. Fisher has indicated, in a school where there were a number of poor children. The secret was, dentally speaking, that the committee were a highly intelligent body of men and women, who knew and appreciated the services of their own family dentist, and treated the children of the school as members of their own family. That is the principle which we want to try to extend. Where the committees do not understand the full extent of their duties, such a paper as Mr. Fisher's, if put into their hands, would bring it home to them, and would therefore be calculated to do great good. We can help Mr. Fisher very practically, by subscribing for the pamphlets which will be published, I hope, by the Association, at a cheap rate, and by seeing to their distribution. We must not judge of the provisions for teaching dentistry in this country, by London. In Sir Edwin Saunders' address, it was said that no medical hospital would now be considered perfect without a proper dental department, fitted with every appliance. That is no doubt true in London; it is not true in the provinces, but it ought to be so. It will do harm if the notion gets abroad that it is true when it is not. A difficulty has been felt to exist with regard to the compulsion of the attention. I was opposed to that at first, and if I had written the paper I intended to, I should not have used the word "compulsory." But I was wrong; Mr. Fisher is right. We have got to meet that difficulty, that compulsory attention will probably mean free dentistry. It is like education. I maintain that where education is compulsory it should be free, and I am

afraid it may be very similar with regard to dentistry. But there is one thing we can work for, and perhaps even do, and that is, compulsory inspection. That would be a large way on towards the greater object which Mr. Fisher has in view.

MR. DENNANT: I feel sure that the feeling throughout the room is one of entire approval, and in fact I may say of admiration for Mr. Fisher's efforts and the result of them. You heard what I had to say earlier in the morning with reference to the education of the public, and I would only supplement my remarks by stating that if this pamphlet is published, as I hope it will be, I shall have the greatest possible pleasure in putting it into the hands of every member of the Brighton School Board, and if other gentlemen representing the provinces will do the same sort of thing we shall then be inserting the thin end of the wedge.

THE CHAIRMAN: Has any gentleman any casual communication to make? If not, I shall with my remarks close the business of the present Annual Meeting. I am sure we are greatly indebted to Mr. Fisher for the labour he has bestowed on this highly important question. For my own part I shall not prolong the discussion by making many remarks, because I do not think I could forward the matter by doing so. I fear that Mr. Fisher's idea of making neglect of teeth criminal would be a difficult thing to embody in any legislative measure. The more we steer clear of the help of the legislature the better we shall get on.

MR. FISHER, in reply, said: I do not know if Mr. Simon who used to be the Medical Officer for the Metropolitan Board of Health is still alive, but he mentioned in one of his reports to that Board that such is the spirit of our modern Public Health Acts, to make criminal neglect of the human body if it affects our neighbours or our cities, and I only step a little further and say or ourselves, but I have not yet asked for its application. I feel the kindness of this meeting in speaking of me as they have done. I have only tried to do what I could as a dental surgeon to bring this question to the front and excite interest in it, and I cannot express my thanks to you more than by saying that I feel the kindness of your expressions of approval. Mr. Blandy spoke of health lectures. I advocated that last year, as the elementary beginning of compulsory attention to the teeth of school children, because ignorance is a great drawback to the sanitary keeping of dental structures and the welfare of our own profession. I certainly hope that many workers of the Dental Association will take up

the question of compulsory attention, &c., with zeal and interest. That interest is growing in our work I may mention that I was written to by the solicitor of an orphan school at home, asking what were the benefits of attending to the teeth of school children, and what remuneration I should require for attending to 60 or 70 children. Going once a month, I should have had five or six children to attend to every morning. I wrote to some of our London men long acquainted with school work, and I asked 30 guineas per annum, and at the meeting of the directors the chairman told them that he had an offer from a gentleman with the same qualifications as myself, but without curriculum, to do it for nothing. Now it is such dental action as this that arrests the progress of true conservative dental treatment, for I hold no man can work these appointments in the true spirit of modern dentistry without remuneration. Some of the directors happened to be my own patients, and asked me if I would take 15 guineas. I said that I would rather give five guineas to aid in the payment of a dental surgeon. However, I agreed to be nominated, and my proposer—one of the directors—even failed in getting a seconder for his motion, which was simply to the effect that they have a dental surgeon added to their staff, at an annual remuneration of £15. That is an illustration of how dental surgery makes progress in the provinces. I have to thank Mr. Dennant for his suggestion as to popularising teeth knowledge through cheap literature, but I have never yet come across a good cheap popular work for the people.

West of Scotland Branch.

THE Annual General Meeting was held in the Hall of the Faculty of Physicians and Surgeons, Glasgow, on 10th November, at 8 p.m. W. S. WOODBURN, Esq., L.D.S., Glasgow, President, in the chair.

Mr. Norman M'Queen, of Hamilton, was unanimously elected a member of the Branch.

The HONORARY SECRETARY reported that during the year ten new members had been elected into the Branch, the membership of which now numbered 40.

The Treasurer's report shewed a balance of £15 18s. 2d., in favour of the Branch.

The following list of gentlemen, as office-bearers for 1886-7, was

unanimously adopted by the society :—*President*, J. R. Brownlie, L.D.S.Eng., Glasgow ; *Vice-President*, John Melville, Glasgow ; *Treasurer*, J. A. Biggs, Glasgow ; *Editor of Transactions*, W. S. Woodburn, L.D.S.Glas., Glasgow ; *Council*, D. R. Cameron, L.D.S. Glas., Glasgow ; James Cumming, L.D.S.Glas., Glasgow ; J. Moore Lipscomb, L.D.S.Eng., Kilmarnock ; W. F. Martin, L.D.S. Glas., Glasgow ; *Honorary Secretary*, Rees Price, L.D.S.Eng., Glasgow.

Mr. REES PRICE moved, and Mr. W. S. WOODBURN seconded, the alteration of Rule XI., to the effect that the President and Vice-President of the Branch should be elected annually, and should not be eligible for more than two successive terms of office.

Mr. MELVILLE proposed, and Mr. D. R. CAMERON seconded, the alteration of Rule XII., to the effect that the Branch should meet on the 4th Thursday of every month from October to March inclusive.

Mr. WOODBURN spoke a few words on his retirement from the office of President.

Mr. BROWNLIE then gave his presidential address.

I beg to thank you for the honour you have conferred upon me in appointing me to preside over this Branch of the British Dental Association. It is an honour which, I assure you, I very highly esteem, and it will be my endeavour, during my period of office, to promote in every way possible, the interests of the British Dental Association, and especially of this, its West of Scotland Branch.

The position which our Branch occupies, in respect to the parent Society, differs considerably from that of any of the other Branches, inasmuch as we make a greater use of our opportunity than any of the others. It is the only one, I believe, having meetings at stated intervals during the winter, thus affording its members an opportunity of more frequent intercourse, and the interchange of ideas upon any and every variety of topic, having a bearing upon the art, the science, and the *status* of our profession. With the idea of promoting the provisions and the spirit of the Dentists Act, we seek to unite the other idea of promoting the practice of our art amongst ourselves. Our existence may thus be said to be more independent—our relation to the parent Society less evident. But as the sun controls the solar system, so must we look to the parent Society as our centre, that while doing our duty in our own sphere, we may work in harmony with professional movements over the whole country.

No one can question the claim of our esteemed ex-president to have been the first President of this Branch. Yet the position which by your favour I have now assumed, has to me, and must to many of you, have a somewhat familiar appearance.

Most of us have met in like relationship, although under a different name, and with somewhat similar aims. Many of the members of the one society belong to the other. What a pity it is, that we cannot say *all*; and that minor differences have been completely suppressed for the promotion of the common good.

Let us indulge the hope that it is not yet too late, and that we may still have the pleasure of fraternising with those whose connection with the former society proved them well fitted to strengthen the ranks of the West of Scotland Branch of the British Dental Association.

The direction in which, affiliation to the British Dental Association has done most for us, is that in which we were least able to help ourselves,—I mean in enforcing the provision against infringement of the Dentists Act. Past experience shews the need of a powerful central association, to deal successfully with such matters. Local interference is not desirable and is sure to be badly construed, and made a handle of by the defence.

Amongst ourselves the relation of a branch to cases of infringement of the Act, is tolerably well understood, but if we may judge from communications received from time to time, there seems to exist the need of some sort of definition, or explanation for the guidance of those whose interest in promoting the provisions of the Act, is as great, or greater than our own, but who are more disposed to "shew twenty men what were good to be done, than be one of the twenty to follow their own shewing."

In our Scottish law courts there exists an official under the title of Procurator Fiscal. It suffices that a complaint appears to him to be well founded in order to set the machinery of law to work against law breakers. We can only understand the action of such members of the profession, by supposing that they take us for some sort of Fiscal society.

That they have discharged their duty in pointing to some real or fancied infringement of the Act, and that we are thereupon bound to fly at the throat of the offender.

Doubtless we are interested in maintaining the integrity of the Act, and we are prepared also to discharge what we see to be our duty in respect of offenders.

But I would respectfully suggest to those our prompters, that we have no duty in the matter, which is not equally theirs. That by standing aloof they are weakening our hands, and making any action on our part, more difficult and uncertain.

Many of them have been prompt enough, in availing themselves of the advantages, which the Act brought within their reach, who still seem to require to be told that on every man who has appropriated any of its provisions, there is resting an obligation in honour to take his part in maintaining the integrity, and promoting the efficiency of the Dentists' Act.

Mr. J. R. BROWNLIE shewed interesting models of a case treated by the Coffin expansion plate.

The next meeting will be held at the Faculty Hall, on Thursday, December 23rd, at 8 p.m., when Mr. J. S. Amoores, L.D.S.Eng., of Edinburgh, will give a communication entitled "A few Remarks upon the Dental Anatomy of some of the Invertebrates."

Southern Counties Branch.

ON Saturday evening, November 27th, an informal meeting of the members of this Branch was held at the Town Hall, Brighton, Mr. Alderman RYMER, J.P., of Croydon, president, occupied the chair. The following members were present:—Mr. W. R. Wood, Vice-President; Dr. Redman, Hon. Treasurer; Mr. Dennant, Hon. Secretary; and Messrs. F. J. Van der Pant, Kingston-on-Thames; James E. Welch, Brighton; Sydney Johnson, Hove; Morgan Hughes, Croydon; W. Barton, Eastbourne; J. C. Foran, Eastbourne; C. Berrington Stoner, Brighton; J. T. Whatford, Brighton; A. Gabell, Red Hill; J. N. Stoner, Brighton; D. W. Amoores, Hastings; Stephen Hoole, Thornton Heath; W. R. Wood, jun., Brighton; and Dr. Harrison, Brighton.

The President, in the course of his introductory remarks, invited general discussion upon several matters of interest that would be submitted to them by Dr. Redman, Mr. Van der Pant, Mr. Morgan Hughes, Mr. Welch, Mr. Foran, and he hoped by other gentlemen; he also congratulated the meeting on its numbers and representative character, many members coming from considerable distances, which evinced a wide-spread interest in the general advancement and scientific progress of their profession.

Dr. REDMAN exhibited models sent by Dr. W. SAUNDERS of Ramsgate, and read the following letter which accompanied them:—"I send you casts of a case that might perhaps interest the meeting. The patient is a boy aged 15 years and has attained a height of six feet or more, it would seem as if the great effort made in this abnormal growth has been followed by the retarded condition shown by the models, or rather that the teeth have remained more or less at rest during the rapid growth of the other parts of the body, as you see the temporary canines remain in the upper jaw and occupy the place of the missing laterals, the bicuspid being altogether wanting. In the lower, two incisors and two bicuspid are lacking."

Mr. MORGAN HUGHES asked if there was any history of specific taint, as that would often account for such a condition. Dr. Redman promised to enquire. He then exhibited an apparatus for treating fracture of the inferior maxilla; being a modification of an old-fashioned tongue depressor. The patient for whom the appliance was made was a sailor who had fallen a distance of eighty feet from the rigging on to the deck of a barque; amongst other injuries was a double fracture of the lower jaw, viz., between the right lateral and canine and between the left second bicuspid and first molar—there being considerable displacement. A model of both jaws being taken the lower was broken at the lines of fracture and articulated with the upper; a vulcanite plate was made to fit to which was attached a steel bar, this fitted into an upright post attached to a plate which was placed under the chin, being of the same shape as the base of the jaw—the post being in the median line just in front of the chin and lip, the whole was held together by means of screws—when *in situ* the fractured parts were held firmly together. The patient was able to open the mouth and could masticate without difficulty.

Mr. WELCH, when commenting on this case, said that it reminded him of the Scold's bridle, which is still to be seen in the church at Walton-on-Thames.

Mr. VAN DER PANT exhibited a very unique specimen of eliminated bicuspid which he had taken recently from inferior maxilla of a lady æt. 32, at the same time that six other teeth, molars and bicuspid, were removed. The other teeth, although unusually large, were normal. He promised to ascertain if there was any history which would throw any light upon this interesting pathological specimen.

Mr. MORGAN HUGHES exhibited a series of models showing the progress which had been made in a case of irregularity in a child of 13, in the torsion of central incisor and widening of the arch. A discussion followed in which Messrs. Foran, Sydney Johnson, D. W. Amoores, and Dr. Redman took part. The latter gentleman referring in terms of commendation to the Talbot spring for widening the anterior or posterior part of the palate, as may be required.

Mr. WELCH showed a specimen of the damage which can be done with the key in the hand of a rough, ready operator, in which a considerable piece of the jaw had been removed.

Mr. J. N. STONER had brought a model of a very diminutive edentulous jaw of a female æt. 45, which he had taken with a teaspoon, quite successfully—as the denture he had made gave evidence of.

Mr. J. C. FORAN (of Eastbourne), exhibited two models, apologising for doing so, as they had already been sent to the Museum of the Odontological Society, the first—which is not in the catalogue of the Society, although it was presented in 1880—was a model of the mouth of a young lady between 16 and 17 years of age, showing a V-shaped dental arch, with unusual contraction in the neighbourhood of the second bicuspid, there being space of only $\frac{3}{8}$ ths of an inch between the lingual surfaces of these teeth. There was no cleft in the palate, although the model would convey the idea of one being present, owing to the abnormal height of the roof. The malformation was hereditary, the mother's mouth showing the same kind of deformity, though to a much smaller extent. Mr. Foran wished at the time to expand the arch with a Coffin's plate, but the friends of the patient were not in favour, from various causes, of this treatment. He was obliged to content himself with the extraction of the two bicuspids, and so give more room for his tongue. The lower jaw did not present any unusual features.

The second case, was the model of the lower jaw of a girl, aged 13, showing the effects of necrosis caused by typhoid fever. The most remarkable point in the case was the satisfactory effort made by nature to repair the ravages caused by disease. The girl when 8 years old, had a very severe attack of typhoid fever. During the illness it was noticed that the four lower incisors were quite loose, and shortly afterwards they came away, together with sequestra of necrosed bone. Not long afterwards the canines erupted and moved forward into the gap caused by the loss of the incisors,

the space between the whole of the teeth now being very slight and very even so that practically there was no disfigurement; and it would require a trained eye to notice the deficiency. His reason for showing the models was that some of the members present had not seen them.

Mr. DENNANT, referring to the very interesting papers, which were read at the Annual Meeting of the Association by Dr. Cunningham and Mr. Fisher of Dundee, dwelt on the importance of educating the public, on these and kindred points, especially in the difficulties which lay in the way of the conservative treatment of the teeth of the poor. This subject was then duly discussed, and the general consensus of opinion appeared to be, that, until the public generally realised the heavy demands on the time of the dentist for the successful treatment and eventual preservation of the teeth, it would be quite impossible to assist the masses of the poor in this respect, in anything like an adequate and satisfactory manner.

The HON. SECRETARY expressed the hope that the growing intelligence of the public on all matters of dental hygiene, would soon enable every considerable medical institution in the country, such as a county hospital or infirmary, to provide a resident dental surgeon, whose special duty should be to undertake the treatment and the conservation of the teeth.

After two hours thus pleasantly and usefully spent, the meeting terminated with a vote of thanks to the Chairman.

ORIGINAL COMMUNICATIONS.

Dentistry and Its Relation to the State.*

By GEORGE CUNNINGHAM, B.A. (Cantab.).

DOCTOR OF DENTAL MEDICINE (HARVARD UNIVERSITY), LECTURER ON DENTAL SURGERY APPROVED BY THE SPECIAL BOARD OF MEDICINE, UNIVERSITY OF CAMBRIDGE, MEMBER OF THE ODONTOLOGICAL SOCIETY, AND MEMBER OF THE REPRESENTATIVE BOARD OF THE BRITISH DENTAL ASSOCIATION.

(Concluded from p. 739.)

SANITARY REGULATIONS.

Section II.—*Personal Hygiene* of Troops.

Paragraph 1044.—"Medical officers doing duty with troops will inspect the men under their charge weekly, for the detection of itch, cutaneous complaints, ocular diseases, ulcers and any

* Read at the Annual General Meeting of the Association, August, 1886.

ailments indicated by the countenance or skin, as fever, scurvy small-pox, &c., and will immediately adopt such precautionary measures as may appear to be requisite."

Paragraph 1046.—"The medical officer will satisfy himself that the personal cleanliness of the men is properly attended to."

NOTE.—Might not this personal cleanliness required of the men be extended to the mouth and teeth? A reference to the table showing the state of the mouths of recruits will show the necessity of this.

MEDICAL ATTENDANCE AND EXAMINATION.

Employment of private Medical Practitioners.

Paragraph 961 provides that if there be no medical officer at a station where there are non-commissioned officers and soldiers entitled to medical attendance and medicine at the public expense, the officer commanding at the station under provisions of Articles 326 to 330 of the Royal Warrant relating to pay, &c. (Army Regulations, Vol. 1), engage the services of a properly qualified private medical practitioner for attendance on the non-commissioned officers and soldiers present.

NOTE.—Remedial dental treatment from the equipment supplied seems to be included in the medical attendance provided by the Department. Might not this be taken as a precedent for engaging the services of a properly qualified private dental practitioner?

UNITED STATES ARMY EXTRACTING CASE.

No. 1, upper front root.

„ 2, lower bicuspid and canine.

„ 3, „ „ „ incisor.

„ 4, „ molar either side.

„ 5, „ „ cowhorn.

„ 6, right and left upper molar.

„ 7, upper bicuspid and canine.

„ 8, upper and lower back root.

„ 9, „ incisor and canine.

„ 10, „ wisdom, either side.

2 elevators for lifting roots of bicuspid and molars.

1 gum lancet.

NOTE.—The absence of forceps for the teeth of children and the absence of the tooth key is worthy of remark.

UNITED STATES ARMY CASE FOR TEMPORARY FILLINGS.

No. 1, mouth mirror for examining teeth.

6 files (assorted), for separating teeth and dressing rough edges.

6 socket handles for holding instruments.

1 exploring instrument for examining cavities.

2 chisels for trimming edges of large cavities.

10 excavators, for cutting out decayed substance.

1 scaler for removing deposits of tartar.

1 spatula, for packing gutta-percha fillings in large cavities.

3 burnishers for packing gutta-percha fillings in small cavities.

1 Arkansas stone, for sharpening instruments.

1 pair college pliers, for handling absorbents, &c.

1 oz. premium gutta-percha for filling cavities.

6 sheets bibulous paper for drying cavities.

NOTE.—Contrast this provision with Appendix No. 24 of the H.M. Army Medical Department regulations (p. 31). Observe the presence of the mouth mirror, the probe and the dressing forceps.

UNITED STATES NAVAL ACADEMY DENTAL EQUIPMENT.

Equipment.—A Dental Surgery with all the instruments and appliances used by American dentists in care of a qualified dental surgeon, appointed by the Superintendent of the Academy, and approved by the Secretary of the Navy, at a salary of 1,600 dollars (about £333) per annum. Hours of attendance, from October 1st to June 10th, daily from eight a. m. to noon.

Operations performed—general dental operations, except artificial work. Estimates of materials used—gold foil, 8 oz. cost about 200 dollars (£50); amalgam, cements, rubber, dam, &c., cost about 10 dollars (£2). Number of cadets in the academy about 250.

REFORMED CASE OF SCALING AND TEMPORARY TOOTH
STOPPING INSTRUMENTS.

Mouth mirror ...	...	...	...	1
Probe ...	...	...	...	1
Dressing forceps	...	...	...	1
Excavators	...	...	...	6
Chisels ...	...	...	...	2
Rosehead drills	...	...	...	4
Stoppers and burnishers	...	...	...	4
Scalers ...	...	...	...	3
Absorbents and bibulous papers	...	...	...	1 packet.
Amalgam	...	...	...	$\frac{1}{4}$ oz.
Mercury in holder	...	...	...	1
Premium gutta percha	...	...	...	$\frac{1}{2}$
Folding case	...	...	...	1

NOTE.—This equipment could be provided at the same cost (38s.) as the present army case, with which contrast this equipment.

REFORMED AND EXTENDED CASE OF SCALING AND TOOTH
STOPPING INSTRUMENTS.

Mouth mirror ...	...	...	...	1
Probes ...	...	...	...	2
Dressing forceps	...	...	...	1
Excavators	...	...	...	12
Chisels ...	...	...	...	4
Rosehead drills	...	...	...	6
Stoppers and burnishers	...	...	...	6
Spatula ...	...	...	...	1
Nerve instruments	...	...	...	10
"Sullivan" ladle	...	...	...	1
Files (assorted)	...	...	...	6
Arkansas slip	...	...	...	1
Glass slab	...	...	...	1
Mercury in holder	...	...	...	1
Amalgam	...	...	...	1 oz.
" copper	...	...	...	1 oz.
Phosphate cement	...	...	...	1 packet.
Premium gutta percha	...	...	...	1 oz.

Case to be supplied at each station hospital at home and abroad.

COMBINED CASE OF SCALING, TOOTH STOPPING AND EXTRACTING INSTRUMENTS.

Tooth stopping instruments and materials as in reformed and extended case, and forceps in a portable case.

As the mahogany case of the army equipment is necessarily expensive, this combined equipment could be provided for about the same cost as presently paid for the two army equipments. (App. 24 and 25, Army Medical Regulations).

RETURN OF RECRUITS SHOWING THE NUMBER INSPECTED FROM THE 1ST JANUARY, 1875, TO 31ST DECEMBER, 1885, AND REJECTED, IN RECRUITING STATION WHERE THE DENTAL EXAMINATION WAS MADE.

YEAR.	INSPECTED.	REJECTED.	FIT.	REJECTED FOR LOSS OR DECAY OF TEETH
1875	5030	1272	3758	28
1876	6376	1451	4925	37
1877	6464	1809	4655	35
1878	6209	1735	4474	33
1879	6738	2113	4625	37
1880	6281	3148	3133	27
1881	4635	2311	2324	20
1882	4432	1808	2624	22
1883	7529	3253	4276	137
1884	6696	3003	3693	75
1885	6149	2922	3227	29
	66,539	24,825		

Average ... 100 ... 37.30

Appendix N.
 TABLE SHOWING THE RESULTS OF AN EXAMINATION OF THE MOUTHS AND TEETH OF ARMY
 RECRUITS OF WHICH ABOUT 60% WERE PASSED AS FIT.

No. Examined.	Average.		State of the Teeth.			Degrees of Tartar Deposits			Condition of the Gums.			Diseased Teeth.				Lost.		Irregularities.		
	Years.	Months.	Clean.	Dirty.	Foul.	Little.	Much.	Very much	Healthy.	Inflamed.	Ulcerated.	Decayed.	Badly Decayed.	Abscessed.	Teeth requiring Extraction.	Teeth already lost.	Total to be lost.	Treatment by Extraction.	By Apparatus.	Irreparable.
Boys	14	11	0	2	1	1	1	1	2	0	1	5	3	0	7	2	9	1	1	0
Recruits (17 to 25 years)	19	7	9	38	53	14	34	30	30	28	42	348	34	27	231	105	336	13	1	7
100					91		64			70		409							21	

ABSTRACTS FROM QUAIN'S DICTIONARY OF MEDICINE.

"Morbid conditions of the mouth, whether as inflammation of the mouth or tongue, or as disorders of the teeth, render the first function of the digestive apparatus, viz., mastication, difficult and imperfect. Imperfectly masticated food, when swallowed, is a well recognised cause of dyspepsia and its many inconveniences."—(Dr. ALLCHIN.)

"It must be remembered that the occurrence of one condition is apt to be quickly associated with another, and hence the forms of dyspepsia as they usually present themselves are of a complex nature, however simple the primary fault may have been."—(Dr. ALLCHIN.)

"The diseases of the teeth are for the most part of a surgical character and need operative interference. The pathological conditions of the teeth are, however, of important interest to the medical practitioner, *causing* and explaining, as they do, many maladies especially of the nervous system, and having a serious bearing on digestion and nutrition as dependent on efficient mastication."—(Mr. SALTER).

NOTES FROM A PAPER OF DR. MAGITOT, OF PARIS, ON "THE CURABILITY OF DENTAL CARIES."

"To-day the conservative tendencies of modern surgery must protest against any method of practice which has not as its object the rational therapeutic treatment and the physiological restoration of the teeth, relegating the ancient operation of extracting for the cases, relatively very rare, of extreme complications and by way of exception. . . .

"The enquiry has been made publicly in an open clinic. It has thus had for witnesses, and also as fellow workers, a certain number of young doctors who, for some years, have been willing to assist in my practice and attend my lectures." . . .

Putting aside the extractions for "irregularities, anomalies, accidents of the wisdom teeth, &c., in a total of 2,000 teeth, the cures amount to 1,980, while the extractions numbered 20, or 99 per cent. cures, and 1 per cent. extractions. . . .

The age of the subjects observed, from birth to seventy years, show that the period of the greatest frequency of the cases undertaken is that of twenty to thirty years, next comes that from thirty to fifty years, then that from twelve to twenty years, &c."

ROYAL INDIAN ENGINEERING COLLEGE.

	Per annum.	For his 3 years.
Cost per head to India of the education of the students, per annum	£69	£206
Add the cost of fees paid	180	540
	<u>£249</u>	<u>£746</u>

FOREST SERVICE IN INDIA.—EXTRACT FROM REGULATIONS.

4. Applicants will have to appear before a Medical Board* at the India Office at a date to be hereafter named. Particular stress will be laid on good vision and hearing, and means will be taken to test physical powers of endurance, so as to ensure none being allowed to compete unless of active habits and sound constitution.

REPORTS OF SOCIETIES AND OTHER MEETINGS.

General Medical Council.

Tuesday, Nov. 16th.

The PRESIDENT, Sir E. ACLAND, in the Chair.

THE DENTAL REGISTER.

A Resolution having been agreed to with reference to the mode of procedure in regard to the removal of the Qualifications or Names of Medical Practitioners from the Medical Register, it was moved by Mr. Marshall, seconded by Mr. Simon, and without discussion resolved:—

“That the following be added to the standing orders:—

(a) “That when the General Council has received notice from a Licensing Body that any Qualification or Qualifica-

* With a view to prevent parents and guardians from incurring the inconvenience and expense of preparing candidates who may be physically unfit for the Forest Service, it is suggested that candidates be submitted to examination by the medical adviser of the family, or any other qualified medical practitioner, with regard to the following points:—(1) a weak constitution, (2) defective vision, (3) impaired hearing, (4) the existence of any congenital defect. It is to be understood that this private examination is merely suggested to lessen the chances of disappointment, and that it is by no means intended to take the place of, or to influence in any way, the official examinations.

tions have been duly and legally withdrawn from a Registered Dental Practitioner by such Body, provided that such Qualification was not withdrawn on account of any of the causes mentioned in the eighteenth Section of the Dentists Act as insufficient to disqualify a person from practising Dentistry, then the Council shall, if it think fit, by formal Resolution proposed from the Chair, direct the Registrar to remove such Qualification or Qualifications from the Dentists' Register.

(b) "If, under the direction of the General Medical Council, all the Qualifications of any Registered Dental Practitioner have been erased from the Dentists' Register, then the Council shall, if it think fit, by formal resolution proposed from the Chair, direct the Registrar to remove the name of such Practitioner from the Register."

Thursday, November 18th.

Mr. FARRER (solicitor to the Council): I am instructed to bring before you the following report of the Dental Committee:—

The case of Thomas Maden having been referred to them by the Executive Committee to ascertain the facts in regard to such case, the Dental Committee find the facts to be as follows:—

That Thomas Maden was on the 7th July, 1884, registered under the 37th Section of the Dentists Act on a request dated the 3rd April, 1884, signed by him, stating that he was articled on the 28th January, 1877, to Samuel Haworth, dentist, of Mill End, Newchurch, near Manchester, but then of 23, Whittlefield Street, Burnley. That such Articles expired on the 28th January, 1879, and that the amount of premium paid was £30.

That such request for registration was accompanied by a copy of the articles referred to, and forwarded by Thomas Maden to the Registrar with a Postal Order for the registration fee.

That Samuel Haworth, by letter dated 4th April, 1884, addressed to the Registrar, certified that the agreement made between himself and Thomas Maden had been duly fulfilled.

That Thomas Maden was born on the 4th October, 1865, as appears by the Superintendent Registrar's certificate of his birth, so that he was but 11 years and 4 months old at the time he is alleged to have been articled to Samuel Haworth, and 13 years and 4 months old at the expiration of such articles.

That during the two years of his alleged Articles, viz., from January 20th, 1877, to about May 11th, 1878, Thomas Maden

attended as a scholar at the Lamb National and Edgeside Holme Day Schools (as can be proved by the School Register), with the exception of a period between June and November, 1877, during a portion of which time he was working at Messrs. Caleb Shepherd & Sons, Saga Holme Mill, Whitewill Bottom, Newchurch, cotton manufacturers.

That it has not been ascertained what Thomas Maden was doing from May, 1878, to May, 1883, but in the latter month he (it is alleged), knowing nothing about Dentistry, entered the service of his brother, William Henry Maden, a Registered Dentist, Rawtenstall.

The Dental Committee report these facts to the General Medical Council.

H. ACLAND, *Chairman.*

November 18th, 1886.

Mr. MARSHALL: I beg to move that the report be received and entered on the minutes.

Dr. QUAIN seconded the motion.

Mr. MARSHALL: Our reason for proceeding in this matter at once is in order that this gentleman may be summoned to-day.

Mr. SIMON: I agree to the report being entered on the minutes at once, contrary to the usual custom, but the object of that custom is that we may have a little time to consider, and I doubt whether we could with advantage go into a case of this kind which we have not had the opportunity of looking at attentively. It is a penal matter.

Mr. FARRER: It is a very simple case—the case of a boy of eleven years of age beginning his apprenticeship, and leaving it at thirteen years of age. I hope the Council will feel that it is prepared to consider it.

THE PRESIDENT: The question is whether under the circumstances the Council will allow this report to be received and entered on the minutes at once. After a vote has been taken, the solicitor will be able to state fully the reasons for the course he suggests.

The motion was agreed to.

Mr. FARRER: I may mention that this is no new matter; it has been going on for some time, though not before the Committee. The people concerned have been referred to by the Dental Association, and we have letters showing what has been going on. Mr. Maden has been informed as to the enquiries made into his

conduct. The facts are so simple, that as I said before, I hope the Council will feel itself able to go into the case. This is a case of a boy of eleven years and four months old when he professes to have taken articles, and only thirteen years and four months old when the articles were said to have expired. During that time we can show—I have evidence to prove it, which seems to me conclusive—that he was during the greater part of the time at school (where he ought to have been), and during the other part of the time, he was with a cotton manufacturer, at all events, for a year and a half, or thereabouts, he was certainly not learning dentistry. The result is, that the declaration made by Mr. Haworth, his master, that the articles were properly fulfilled, was absolutely untrue. Mr. Haworth was then a registered dentist, but he cannot now be found by the Dental Association. It is clear, under the circumstances, that the entry was fraudulently and incorrectly obtained. Under the 13th section of the Dentists Act, the Council is empowered to erase from the Register any entry fraudulently or incorrectly made, and by the 15th section, the facts of the case may be ascertained by a committee of their own body, not exceeding five in number, of whom a quorum shall not be less than three, and the report of that committee is to be “conclusive as to the facts, for the purpose of exercising the said powers by the General Council.” To satisfy the scrupulous consciences of the Council, I have seen Mr. Muir Mackenzie this morning, and his opinion is as follows:—“I think that under sections 13 and 15 the General Medical Council have power to act on the report of the Committee, and forthwith to direct the name to be erased without citing the medical practitioner. In the resolution directing the erasure of the name, the fact that the Committee has reported that the entry has been fraudulently made should be recited.” I have therefore drawn up a resolution for the Council to pass if it sees fit, and is satisfied as to the fact presented by the Dental Committee. I have before me the certificate of birth of Thomas Maden. I have also a letter from the Dental Association detailing the facts of the case, and I have had gentlemen with me stating those facts. I have here the entry that was made and the declaration accompanying it with the copy of the professed articles purporting to come from Mr. Haworth. Besides that, I have been credibly informed that Mr. Maden, the father, has been applied to on the subject. He is an astute Yorkshire labourer, and he

simply says "Let them as put it on take it off." On its being represented to him that he is liable to criminal proceedings for assisting in the fraud he simply said "They would not give me more than a week for it." The resolution that I suggest is that the Dental Committee, to whom the case of Thomas Maden has been referred, having found that the entry of his name on the Dental Register has been incorrectly and fraudulently obtained, the General Medical Council does hereby direct the Registrar to remove the name of the said Thomas Maden from the Register, and to give the said Thomas Maden notice that his name has been so removed from such Register." I do not know that I have anything to add to that statement. A question has been raised whether the practitioner should be summoned. I do not think he need be. In fact, he is perfectly prepared for this measure as I have said, but if you wish that he should be summoned it is possible to cite him for Saturday. It is almost certain, however, that he is not at the registered address to which the letter would be sent, and it will hardly therefore produce any effect. I think that the Council having power, as it clearly has under the Act, the simplest course would be to remove the name, and if the man has anything to say hereafter he can petition the Council for its restoration. It is a very clear case of fraud, although you cannot perhaps have up a boy of eleven for having entered into it. It was no doubt concocted by others for him. My own opinion is that you should adopt this resolution.

The Council then deliberated upon the subject in private, and on the readmission of the public—

THE PRESIDENT intimated that the Council had passed a resolution directing Mr. Maden's name and qualification to be removed from the Register.

National Dental Hospital Students' Dinner.

THE Annual Dinner of the Past and Present Students of the National Dental Hospital, was held at the Holborn Restaurant on the evening of the 3rd of December. The chair was taken by the Dean of the Hospital, Mr. Thomas Gaddes, who was supported by Mr. J. S. Turner, Mr. Pearce Gould, Mr. Alderman Rymer, Dr. Cunningham, Mr. Arthur Underwood, Mr. H. Weiss, Mr. Harry Rose, Mr. Alfred Smith and a goodly gathering of past and present students.

After the usual loyal toasts from the chair, Mr. H. WEISS proposed the "Dental Societies," referring especially to the Odontological Society of London, the Odonto-Chirurgical Society of Edinburgh, and the British Dental Association.

Mr. W. WEISS replied for the Odontological Society, and Mr. SMITH TURNER, in replying for the British Dental Association, dwelt upon the fact that it was the duty of all present who were still outside its fold to lose no time in giving their support to that body.

Mr. RYMER spoke in high praise of the staff of the Hospital, and Mr. H. ROSE replied.

Mr. ARTHUR UNDERWOOD, in proposing the "Medical and Dental Schools," advocated the spirit of unity between the two, and spoke of the success which had crowned Dr. Cunningham's efforts to establish a school at Cambridge, and his other scheme of dental supervision of schools, in which he and Mr. Fisher were doing great things.

Messrs. PEARCE GOULD, and CUNNINGHAM, responded.

The CHAIRMAN, in proposing the "Past and Present Students," expressed a hope that the year of the Jubilee would be commemorated by some lasting celebration with regard to our profession, and suggested the creation of a "Victoria" Scholarship.

Messrs. GLASSINGTON and PHILLIPS having responded, the toast of the "Chairman" was proposed by Mr. SCOTT THOMPSON, and received with vociferous applause, and responded to by the CHAIRMAN.

The proceedings terminated with a Smoking Concert.

HOSPITAL REPORTS AND CASES IN PRACTICE.

Removal of a Large Exostosis by Drilling, and the use of Dilute Nitric Acid.

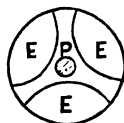
BY URBAN PRITCHARD, M.D., F.R.C.S.

PROFESSOR OF AURAL SURGERY KING'S COLLEGE HOSPITAL.

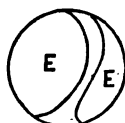
C. J. A., professional man, age about 45, fine, strong, and healthy, consulted me on September 30th, 1885, complaining of gradual increasing deafness the last three or four years. Last ten days purulent discharge from right ear. Multiple exostoses found in both meati, and a small polypus in the right. Ordered to syringe right ear with warm water containing permanganate of

potash twice a day, and afterwards to use an instillation of rectified spirit with powdered boracic acid.

Oct. 6th.—Purulent discharge and polypus quite disappeared under the treatment. Hearing improved. Ordered to continue same treatment once a day for a week, then only every other day.



R.—Diagram of meatus right.
E., exostosis; P., polypus.



L.—Ditto of left. Note one large exostosis.

Nov. 18th.—Right looking healthy, hearing improved, treatment stopped on this account; and from the form of the exostoses, as shown above, the idea of removal of any on this side was given up. But from the form of the large exostosis on the left side (see fig.) and the fear that it might increase and block up the meatus entirely an attempt at removal was agreed on, to be undertaken in the following February.

Feb. 3rd., 1886.—A consultation with Mr. George Field suggested.

Feb. 10th.—Mr. Field strongly advises removal.

Feb. 17th.—*1st Operation.*—Under ether by Mr. Chas. Moss, assisted by Dr. Matheson and Mr. Arthur Underwood.

The dental engine used, with large burr (long shank). A hole drilled between centre of exostosis and its free surface. Substance exceedingly hard as usual, no blood after passing through skin. Drilling continued on and off for about one hour, then hole packed with cotton soaked with hydrochloric acid $12\frac{1}{2}$ per cent.

Feb. 19th.—*2nd Operation.*—Under same conditions. On first drilling, substance of exostosis found to be much softened by the acid. Again packed as before. There had been no pain after previous operation.

Feb. 22nd.—A small piece of exostosis broken off.

Feb. 23rd.—*3rd Operation.*—No anæsthetic given, as there was no pain whatever produced by the drilling into the substance of the exostosis, although the skin and outer surface were as usual very sensitive.

Feb. 24th.—Hole packed with chromic acid crystals, much pain produced, therefore syringed out.

Feb. 25th.—No pain.

Ear to be syringed twice a day with a warm solution of nitric acid, strength, 2 per cent., and this to be used as an instillation afterwards.

March 9th.—A small piece of softened exostosis removed by forceps. Patient to go back home (in the country), and syringe twice a day with nitric acid injection, 1 per cent.

June 22nd.—Exostosis seems to have shrivelled under the acid injection.

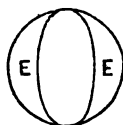
July 10th.—By letter. Some purulent discharge coming from ear. Ordered to use a zinc and carbolic acid injection instead of the nitric acid until the discharge had ceased, then to use the nitric acid injection again.

Oct. 13th.—In September a shell of necrosed exostosis came away, then all treatment stopped.



Natural size.

Now exostosis has disappeared, all but a little thickening of the wall of the meatus, leaving free space. Wound quite healed.



Enlarged rough diagram of result.

Remarks.—This case illustrates how a large exostosis may be removed with safety and very little disturbance by means of the dental drill and dilute acid injections and instillations. But it involves several operations, very skilled assistance, and persevering after treatment. And in multiple exostosis I only recommend it in those exceptional cases where there is a large one threatening to block the whole meatus. Where there are several of about equal size, with a somewhat triangular chink between, it is best to leave them alone, as general experience has shown that the exostosis cease to increase once they touch each other.

MINOR NOTICES AND CRITICAL ABSTRACTS.

A New Culture Medium for Micro-Organisms capable of Withstanding High Pressure.

To the Editor of THE LANCET.

SIR,—Having found agar-agar, in addition to the difficulty of obtaining it, somewhat inconstant as a culture medium, I have for some little time been experimenting in the laboratory of Professor Chiene with a jelly derived from Irish moss. The jelly so obtained is much less opaque than agar, and evidently more nutritious in itself, in that some micrococci and sarcinæ are able to grow in it without the addition of any peptone or meat juice. The method of preparation is of the simplest. Two ounces of the finest selected Irish moss are macerated over night in eighteen ounces of water in a beaker; then in the morning it is placed in the steam steriliser, and kept at the boiling point of water for the period of an hour and a-half, being well stirred up occasionally. At the end of this time it is strained through a flannel, or (preferably) felt bag, two or three times, when it is found to be fairly bright. As a considerable quantity of refuse matter remains in the bag, the quantity of material derived from the moss and represented in the jelly must be considerably smaller than the actual weight of moss used. The jelly so obtained will be found on cooling merely to gelatinise, and yet one finds it to withstand a temperature of 31° C. before liquefying, but if it be evaporated to ten ounces, it is found to be capable of being exposed to a temperature between 50° and 55° C. before liquefying. In this state, if a test-tube be filled with it, it is found to present the appearance of water with only a slight degree of haziness. In order to render this more nutritious, and so better fitted for the requirements of the growth of the generality of micro-organisms, I add to it the materials recommended by Dr. Klein—namely, beef peptone and ordinary cane sugar. If we add to the jelly 2 per cent. of the former and 1 per cent. of the latter, the result is a jelly almost as bright as nutrient gelatine and infinitely more so than agar, while the simple method of preparation and the price (Irish moss is about one shilling per pound) have much to recommend it.

I remain Sir, your obedient servant,

ALEX. EDINGTON, M.B., C.M.

Assistant to Prof. of Surgery, Edin. Univ.

Edinburgh, Sept. 28th, 1886.

ANNOTATIONS.

WE beg to call the attention of our readers to the fact that our new list of members will be published in the beginning of the coming year, and that it is of the utmost importance that notification of any change of address should be sent to our Hon. Secretary, Mr. F. Canton. This is really a matter requiring serious attention.

AMONG the many signs of the increasing strength and influence of the British Dental Association, we notice with special gratification the activity and growth of our various branches; they are not only evidences of our increasing prosperity, they are to a large extent factors in it. Mr. Brownlie's address, at Glasgow (which we publish at page 795), shows in every line that he is eminently fitted to guide and advise, and we need no gift of second sight to predict a rapid and healthy development for the body over which he presides. The address, brief as it is, contains the pith and essence of what should be the relationship between the central body and the various branches, enunciated with so much clearness and tact that we earnestly recommend it to the careful perusal of all. One of the pleasantest features attending the advancement of the branches, has been the inauguration of a system of special correspondence (suggested by Mr. Breward Neale, the active Secretary of the Midland Branch). We trust by this means to bring ourselves into even closer sympathy with our friends at a distance; we hope to be saved from little unintentional offences so difficult to avoid, and so much more difficult to recall or to remedy.

WE trust that these contemplated improvements in our facilities for obtaining local news will enable us to avoid mistakes, misunderstandings, and consequent friction, and we believe the Journal will gain much in interest if we succeed in extending its news column. We are all, whether central body or branches, working for the same ends, and if mental perspective makes us take different views of the relative size of objects according to their distance from us, it is all the more necessary to make allowances and try and see the matter from both points of view, and we cannot give any better advice to promote mutual forbearance than will be found in Mr. Brownlie's presidential address.

IN our report last month of the demonstrations given at the Dental Hospital, at the annual meeting, we made what must have struck many of our readers as a most unaccountable omission in making no mention of the demonstrations of Mr. Ackery and Mr. Latchmore. The only apology we can offer these gentlemen is that the circumstances were very trying for a reporter. The interest attending the work attracted a crowd of observers and critics that, however complimentary to the skill and fame of the operators, rendered careful note-taking very difficult. We must urge the same excuse to our readers, so many of whom will have looked for the account of these operations and have felt a disappointment at their unexplained absence. We can only do the best in our power to remedy the omission by inserting the details now, hoping that our readers and the operators will forgive our short-comings. Mr. Latchmore filled a cavity including portions of the coronal and mesial (interstitial) surfaces of a left upper first bicuspid with cohesive gold, using the electric mallet, the whole operation occupying about three quarters of an hour. Mr. Ackery filled an interstitial cavity in a right upper central with non-cohesive cylinders (using Messrs. Ash's No. 1 C style), and then put a non-cohesive cylinder filling in the masticating surface of a right lower molar (using No. 2 cylinders of the same make).

WE are sure all our readers will join with us in heartily congratulating Dr. Langmore on the verdict in his favour in the recent lunacy case, and the pleasure will be still greater for those of us who have worked with him during the many years that he patiently and ably served the Association in the conduct of this Journal. The merits of the case were so self-evident that neither he nor his friends entertained any serious fears about the verdict; it is one thing, however, to anticipate success and another to attain it. Unfortunately, law is a game at which those who win are often in a worse case than if they had never played, and, in addition to a serious loss of valuable time, are sometimes mulcted in purse, for that which has been proved to be no fault of theirs.

THE Students of the Dental Hospital of London have recently organised an Athletic Club; and Sir Edwin Saunders, F.R.C.S., has consented to act as their first President. The other officers for the current year are as follows:—Vice-Presidents, Messrs. Hutchinson, Smale and Walker; Hon. Secretary, Mr. J. F. Colyer;

Hon. Treasurer, Mr. Wynne Rouw; and Hon. Secretaries of Branches, Mr. Kendall (foot-ball), Mr. Picton (tennis), and Mr. Carter (cricket). The subscription for active members is 10s. 6d., and for Honorary Members £1 1s. annually. Particulars may be obtained from the Hon. Sec., Dental Hospital of London. Among other projects the club have organised a series of smoking concerts, the first of which took place on Friday evening the 12th of November, Mr. Truman taking the chair. Several members of the staff were present, and the company altogether numbered over ninety members and friends. The singing and reciting were excellent, and the evening was a complete success in every way.

THE Students' Society of the National Dental Hospital have also inaugurated a scheme of a similar character under the presidency of Mr. Willoughby Weiss. A smoking concert was held on the 10th of last month at Anderton's Hotel, Fleet Street. The management of the concert was entrusted to Mr. Glassington, who contrived to collect a very efficient choir. The evening was very successful, and the excellent programme was carried through without a hitch.

AT the first meeting of the Odonto-Chirurgical Society, held on the 11th ultimo, a more than usually interesting paper on "The Position and Relation of the Permanent to the Deciduous Teeth, as Exhibited in Frozen Sections," was read by Dr. Symington. We hope in our next issue to publish the paper, with the original illustrations. The second meeting of the Society took place on the 9th inst., and was devoted to a conversational discussion on Pyorrhœa Alveolaris, the initiative in which was taken by the President, Mr. Macleod. Interesting communications were brought before the Society by Messrs. Wilson and Mackintosh.

THE name of Dr. J. Foster Flagg is almost as familiar to English dentists as to those who reside in America, while his reputation for accuracy and thoroughness is such as to furnish ample guarantee for anything that bears his name. During the past twenty years Dr. Flagg has devoted himself largely to investigations relative to all kinds of "Plastic Filling" materials and his "Specialities" have been extensively adopted by our American confrères. We are glad to observe from an announcement in our advertising pages that these "Specialities" have at last come within the reach of English practitioners, and that our friend Dr. Waite

{who has been compelled to relinquish his practice owing to failure of sight), has been appointed agent for this country. We have no doubt that many of our readers will welcome these additions to their resources.

It is gratifying to learn that a dental practitioner of Wexford has been fully acquitted of the serious charge of neglecting a case of hæmorrhage. Hæmorrhage after the extraction of teeth is often very insidious in its method of attack, and when a practitioner has conscientiously done his best, and, as in the present case, a previous extraction performed upon the same patient had been attended with no alarming results, no one would have any difficulty in entirely absolving the operator from all blame.

IN consequence of the banquet to be held on March 10th, at the Hotel Metropole, under the Presidency of Sir James Paget, Bart., for the Dental Hospital of London in commemoration of the Queen's Jubilee, the Annual Dinner of the Staff and Past and Present Students of the Hospital and School is postponed until December 3rd, 1887.

THE Edinburgh Dental Students' Society held its second meeting on the 6th inst., under the presidency of J. Stewart Durward, L.D.S., when a paper on "Recent Improvements in Dentistry," by James Johnstone, L.D.S., was read.

EDINBURGH is at present afflicted with an eruption of English "guinea jaw" men. This district has not hitherto been a congenial soil for such adventurers.

THE fifth of the [1886-7] annual series of "Edinburgh Health Society Lectures," was given on the 11th inst., by Dr. John Smith, LL.D., on "The Physiology and Functions of the Teeth."

THERE is a rumour that the Edinburgh College of Surgeons may soon close its doors to sine curriculo candidates for the L.D.S.

SIR EDWIN SAUNDERS, F.R.C.S.Eng., was elected an honorary member of the New York Odontological Society, at their last meeting, held on Tuesday, Nov. 2nd, 1886.

WE omitted to mention in our report of the last examination for the Licentiatehip of Dental Surgery of England that four gentlemen were referred to their studies.

OWING to press of matter we are reluctantly compelled to hold over our report of the Odontological society's meeting for this month.

CORRESPONDENCE.

We do not hold ourselves responsible for the views expressed by our Correspondents.

Foreign Diplomas.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—In the last issue of the Journal two gentlemen have done me the honour to reply to my letter published in the October number, in which I protested against certain conclusions drawn with regard to the conduct of those who have studied in the American schools. As these gentlemen, however, have not confined themselves to pointing out that I had mistaken the purport of the remarks complained of, but have raised fresh issues, I beg to be allowed to make the following rejoinder.

At the outset let me state plainly, however, that I do not wish to defend those who have completed the curriculum of the R.C.S.E., but failed to come up for examination; I fail to understand their action in neglecting to claim the reward of their labours, my only desire is to defend those who have gone to the American schools after graduating in England, or who have taken the American curriculum as the only one open to them. Mr. Morton Smale states that he has no objection to English graduates going to study in America, but that it would be better for the student on his return not to present a bogus diploma obtained after a brief residence. I condemn, equally with him, any diploma that may be fairly styled bogus; but how short must the residence be to earn the stigma "bogus"? In nine months the English graduate may take his degree at "Harvard," now would Mr. Morton Smale call nine months a brief residence, and style the D.M.D. of Harvard a bogus diploma? He expresses his approbation of those American graduates who are content to be styled Mr., and ventures to discriminate between these gentlemen and those who permit themselves to be styled Dr., assuming that the former have gone for experience, and the latter for a title, either out of a desire for personal aggrandisement or to impose upon the public.

It certainly would be hard to discriminate exactly what motives most impel men to seek and select qualifications. I am afraid that

the desire for that power which comes of knowledge, is not always the paramount motive of their actions, but can we suppose that American graduates have a monopoly of the baser motives? Before Mr. Morton Smale condemns those who permit themselves to be styled Dr., he might consider what a delicate point of etiquette he raises, viz., is a man who has received the D.D.S. entitled to forbid his acquaintances to style him Dr.? because that is what he would have to do if he did not keep his qualification a secret. I think our American friends would have something to say on this point, and would speak in very unflattering terms of those who suppressed their diplomas in deference to the wishes of jealous confrères. I have seen the cards of several American graduates and the prefix Dr. is not adopted, this I think is as it should be, but when courteous acquaintances, knowing the meaning of the letters, D.D.S., address the graduate as Dr., would it not be impossible to request them to say Mr. without reflecting to some extent upon the institution that granted the diploma? These, I think, are the most important issues raised in Mr. Morton Smale's letter, there are other points that might well be replied to, but as I have yet another correspondent to answer, it is inexpedient that I should debate the question further with him.

Mr. Lloyd Williams takes exception to certain expressions used in my letter, such as "special methods," and challenges me to mention what methods and schools I refer to. The methods I had in mind were cohesive gold, continuous gum, and crown and bridge work; the treatment of cleft palate on Kingsley's system, &c., and the schools are those to be found in Boston, New York, Philadelphia, and other cities in America.

He then takes the sentence in which I express an opinion as to what a student may do when he has completed his education, which of course implies having taken his diploma, and builds a theory of his own upon it, in which I am made to appear as disparaging the London schools, and declaring the L.D.S. to be incompetent. In this Mr. Lloyd Williams does me an injustice. I made no comparisons between the British and American schools whatever, nor did I suggest that the L.D.S. was likely to prove a failure. I merely expressed the opinion that a student who had the means to prosecute his studies after graduating as the law requires in this country, might do well to go to America, if he did not desire to take a medical qualification with a view to higher studies. I may say that I entertain a high opinion of the London schools, and from what I have seen of the "L.D.S. only," he is not likely to prove a "practical failure." Mr. Lloyd Williams further reads between the lines of my letter, and there learns that I entertain the opinion that a separate science of American dentistry exists. Let me state that I never in my life met any one who held such a preposterous notion, nor do I entertain it myself. The term American dentistry so far as it has any value is simply a convenient

expression to describe the practice of American dentists. Notwithstanding Mr. Lloyd Williams' objection to the term "special method," it is a legitimate manner of referring to the methods of dental practice; it does not however imply that these methods are entirely confined to the practice of any country or school. I have taken it upon myself to discuss this question, because I feel that any unjust reflection upon the D.D.S. diploma is calculated to annoy, if not injure a considerable number of men who have acquired this degree with the best intentions, and some who now hold it have had to choose between an American dental curriculum or no dental curriculum, and I venture to think that the profession and the country have gained by their acquiring the only curriculum degree open to them in the circumstances under which they have found themselves. It would be well therefore, not to publish statements that may wound deserving men unnecessarily and offend the Americans, who have opened the treasures of their minds so freely to seekers after knowledge from this country. As to alleged "bogus" diplomas, if any one knows of the existence of such things let him ascertain the facts, and place them in the hands of those who can bring influence to bear to check the evil. In America at present great efforts are being made to create and maintain a universal standard of requirements for the dental schools, and if anything can be done to stop the issue of "bogus" qualifications, I am sure that they will do it if approached in the proper manner.

I am,

Yours faithfully,

Cambridge.

CHARLES M. CUNNINGHAM.

Dec. 3rd, 1886.

APPOINTMENT.

HENRY J. MOXON, L.D.S., has been appointed Dental Surgeon to the Westminster Parochial Schools, Wandsworth.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

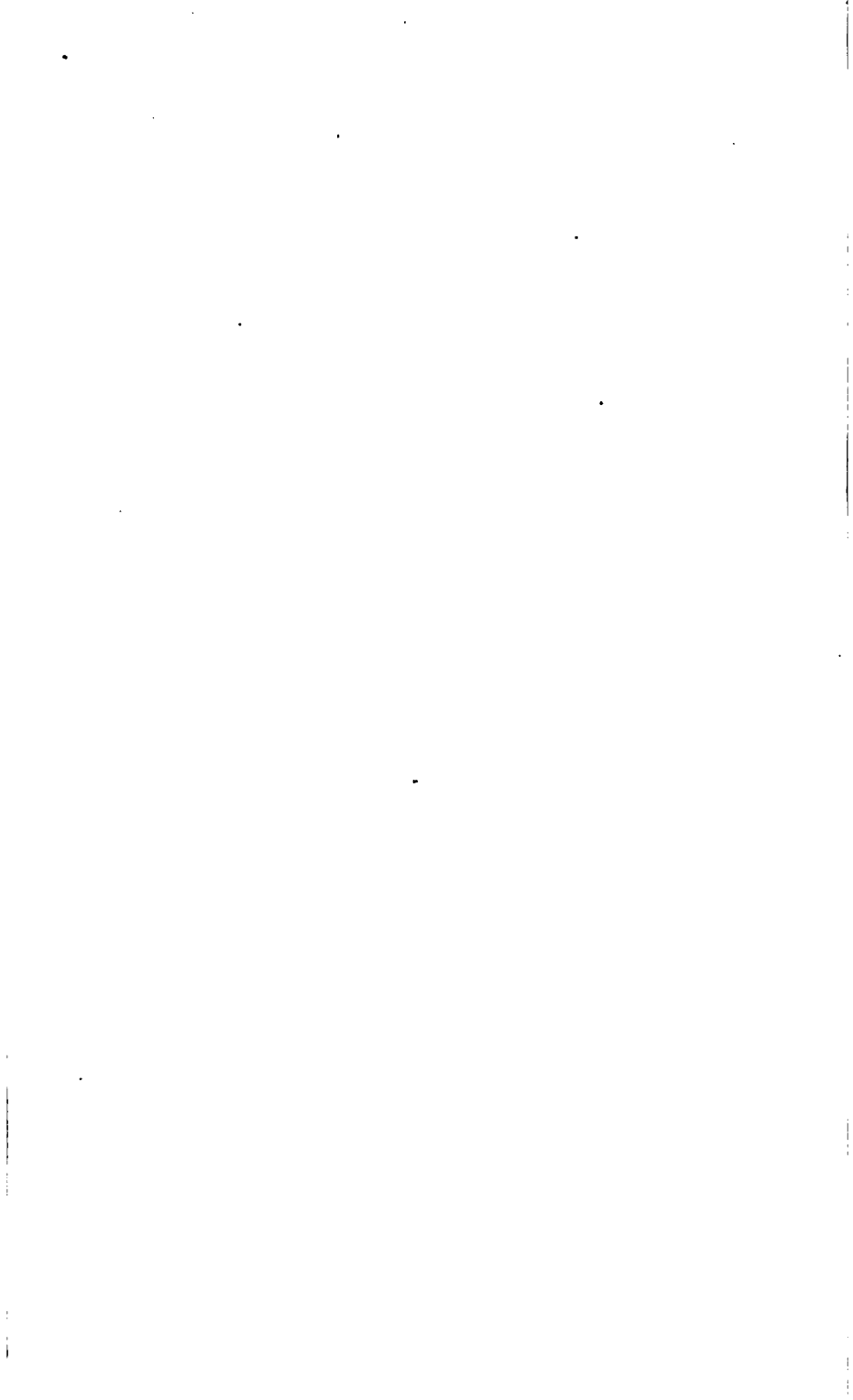
P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Bedford Square, W.C.

Subscriptions to the Treasurer, 40, Leicester Square.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.









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